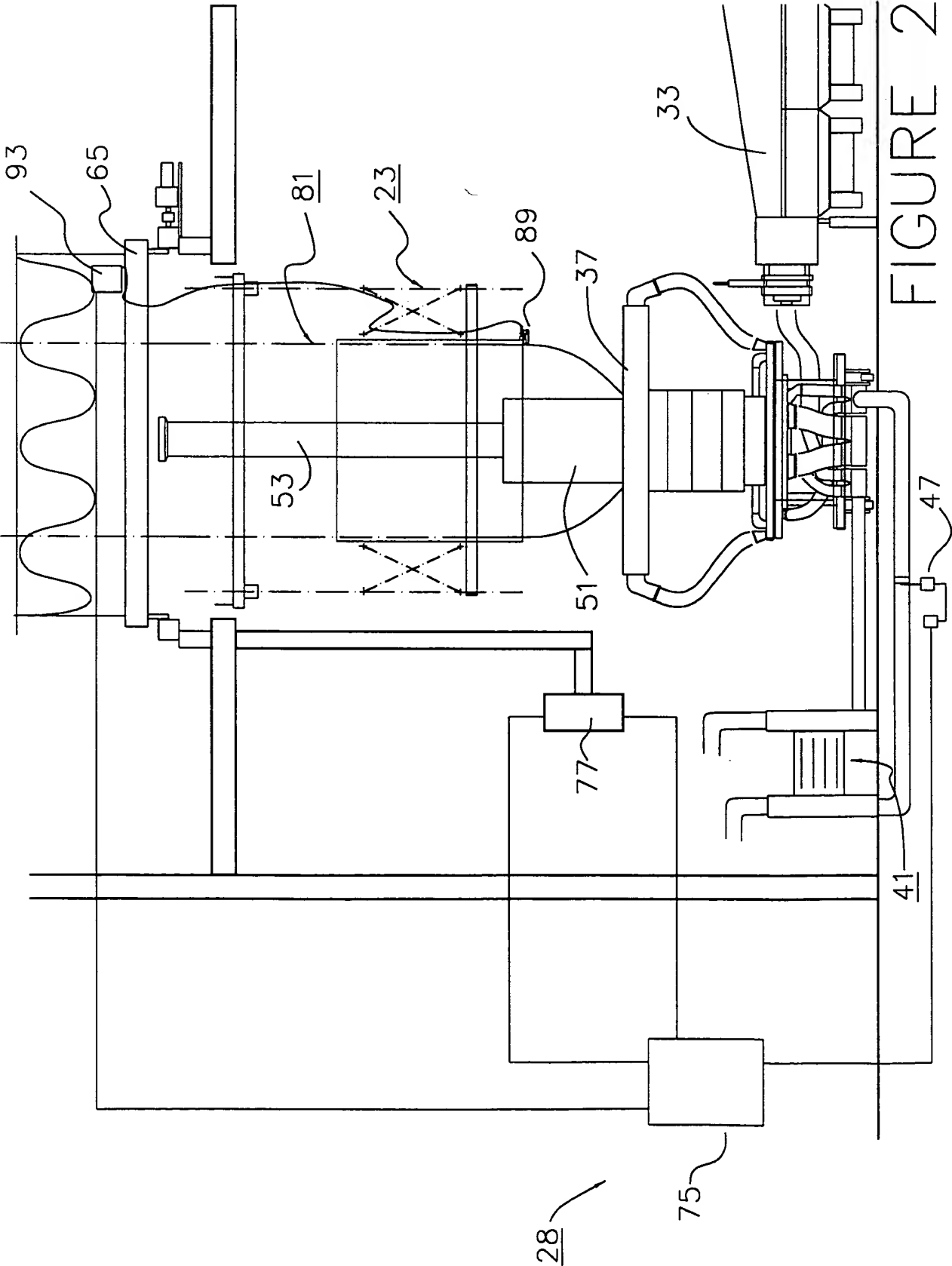


FIGURE 1



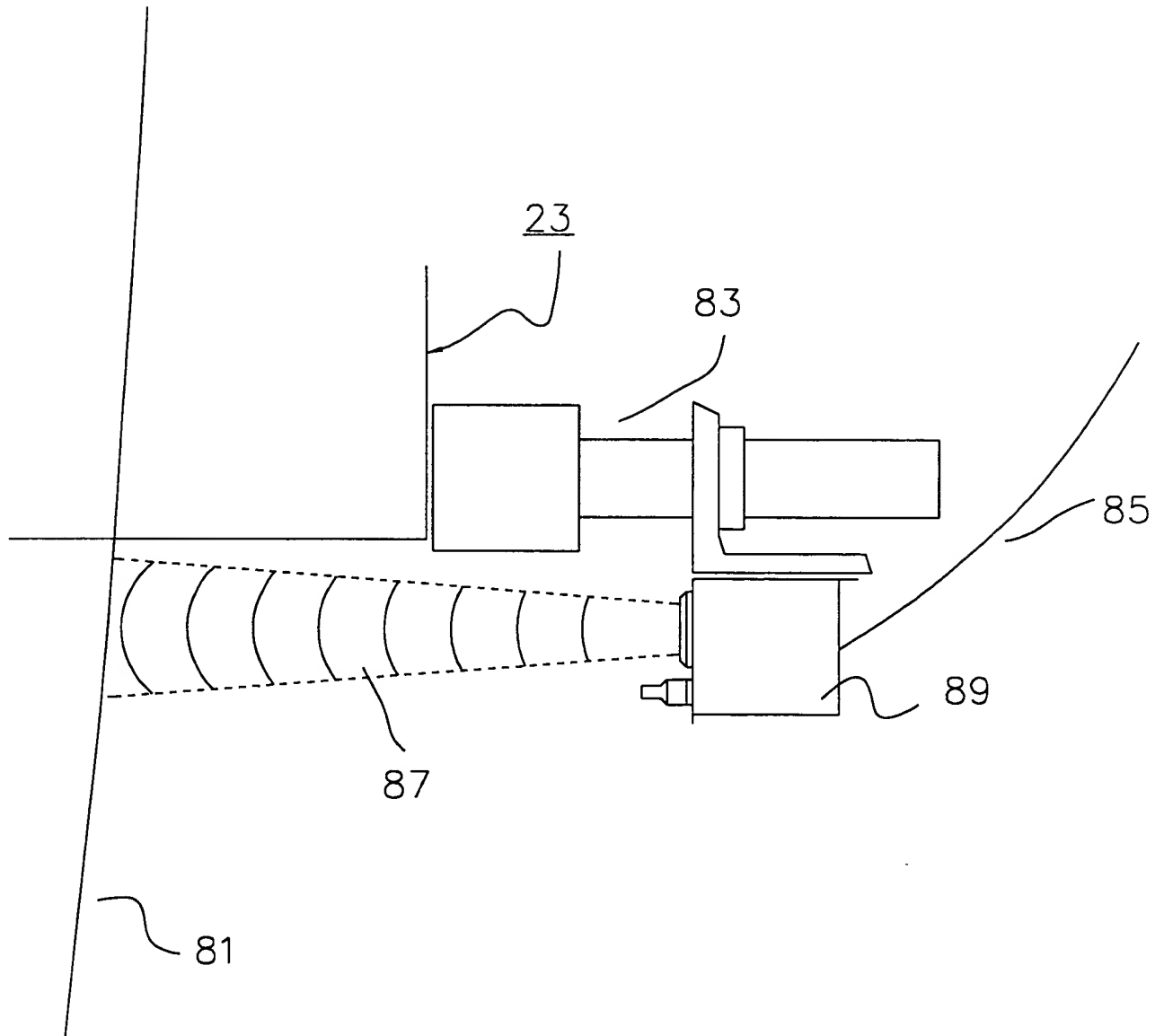


FIGURE 3

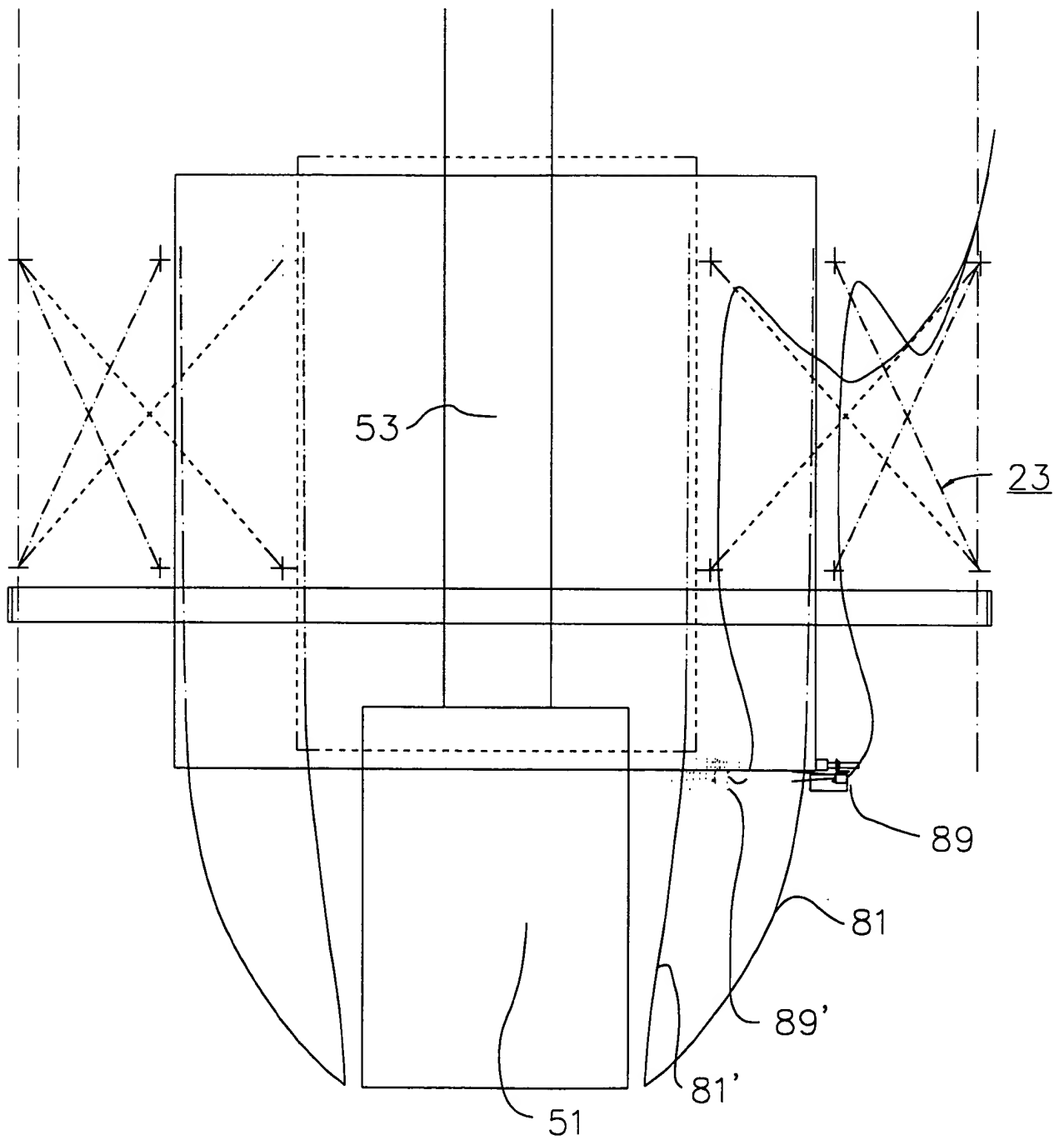


FIGURE 4

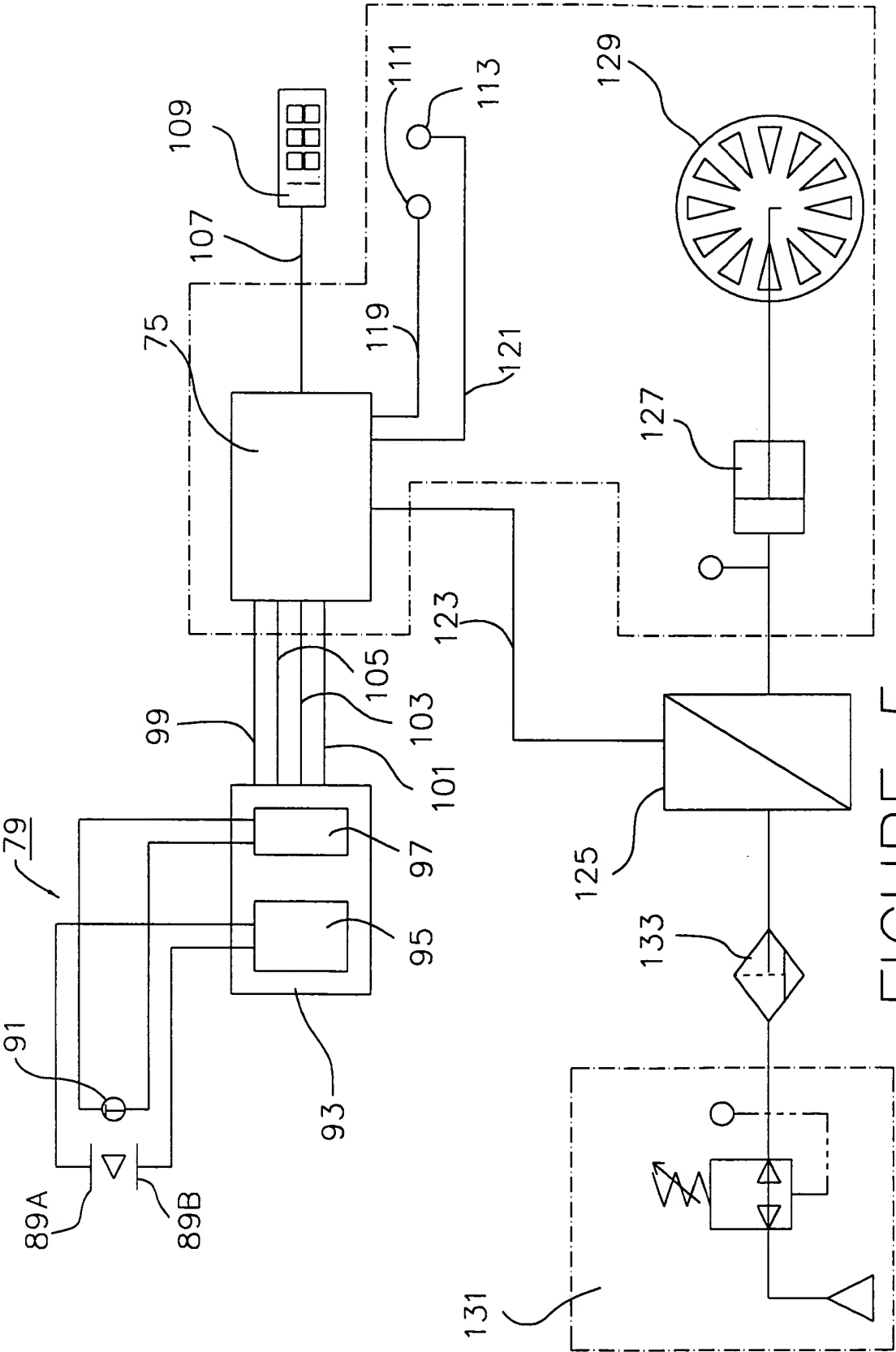


FIGURE 5

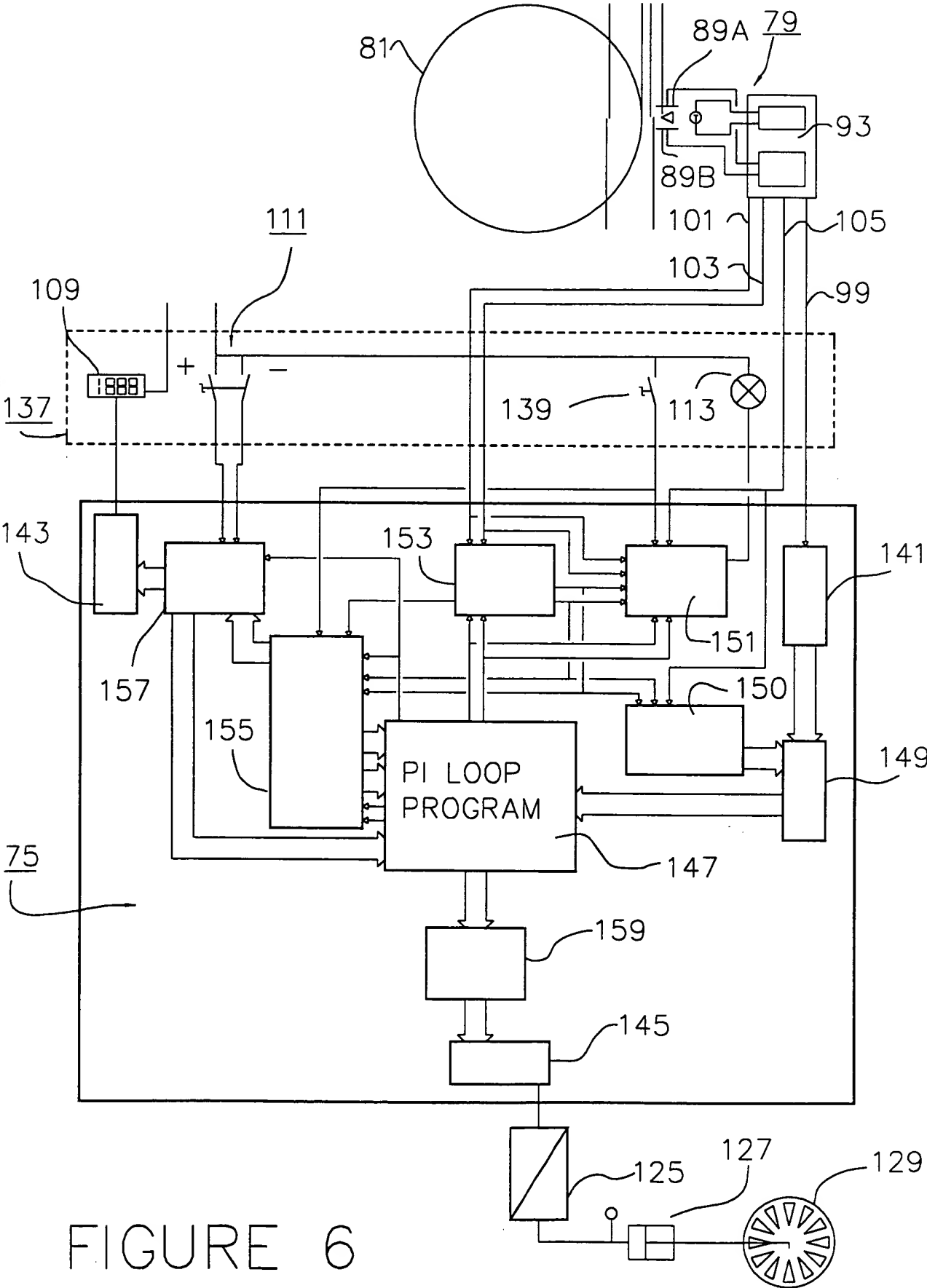


FIGURE 6

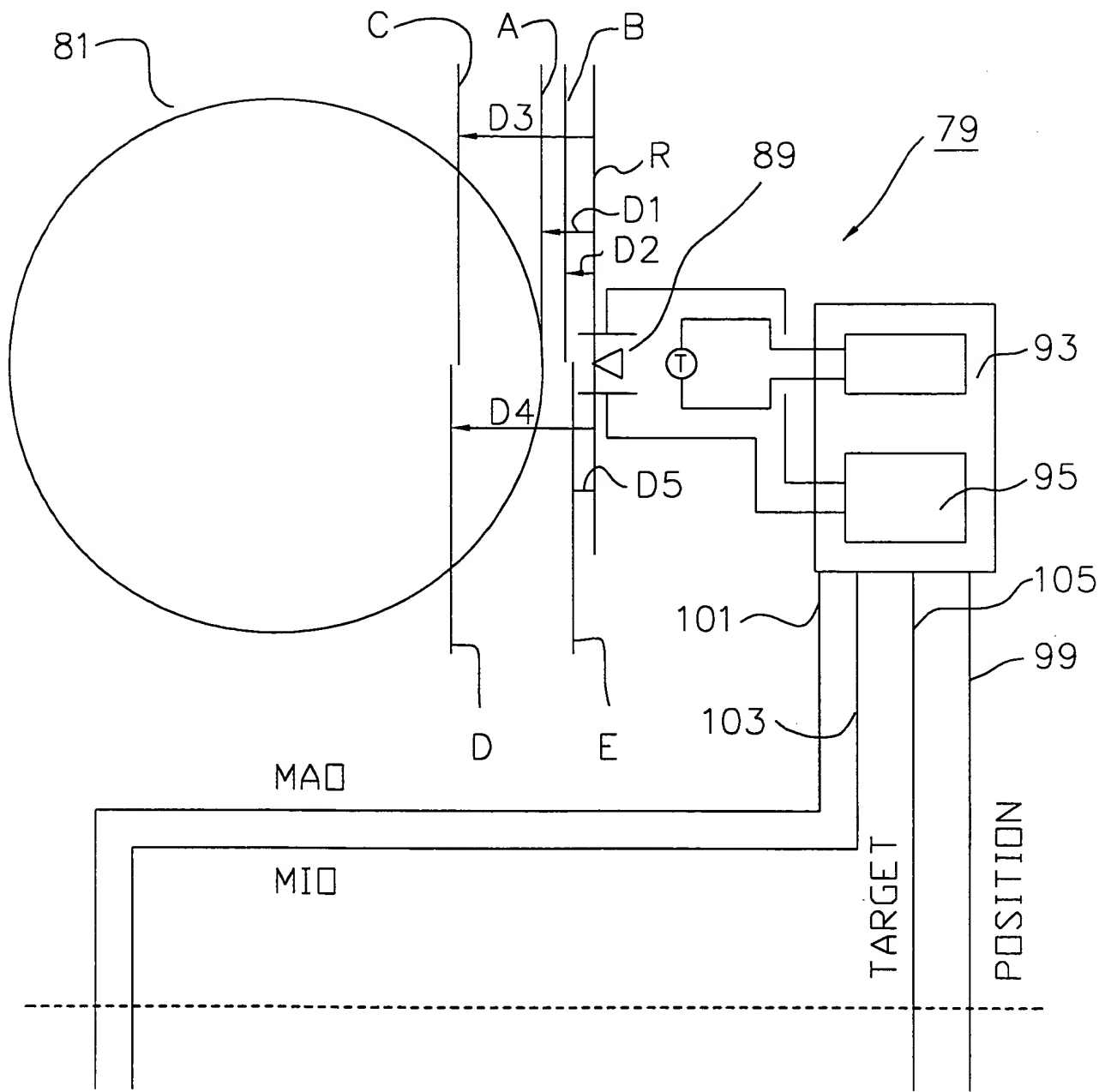


FIGURE 7A

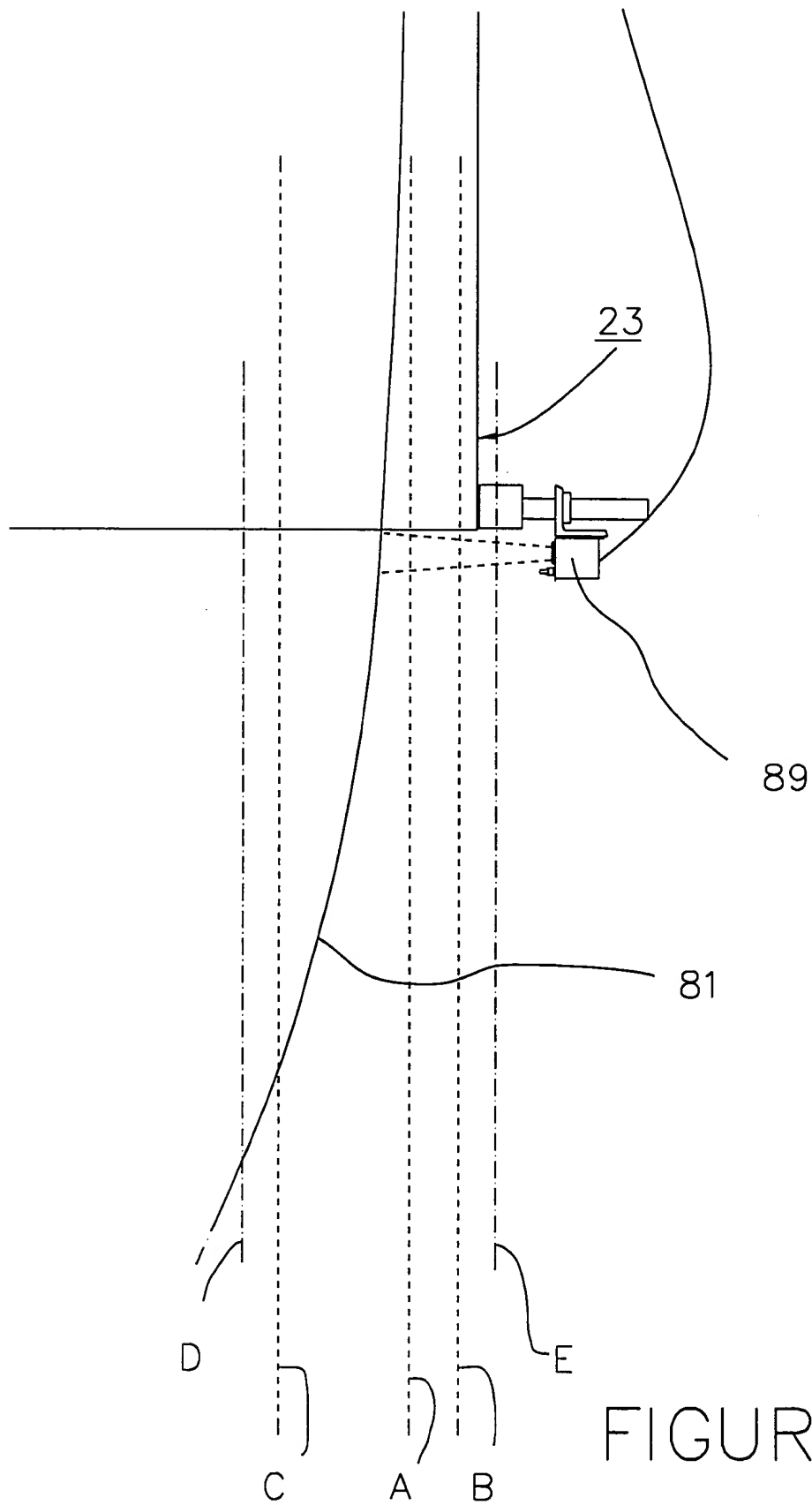


FIGURE 7B

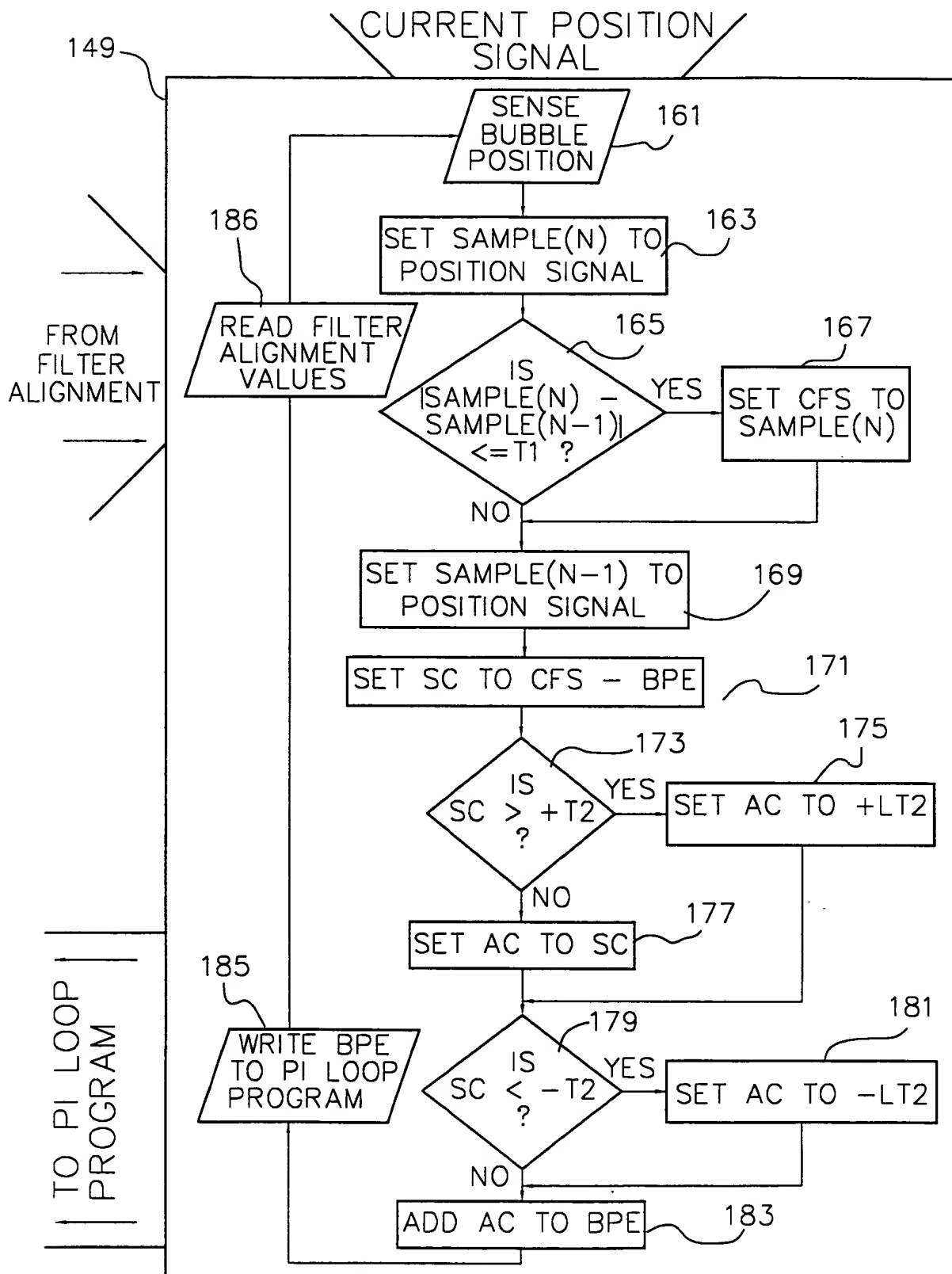
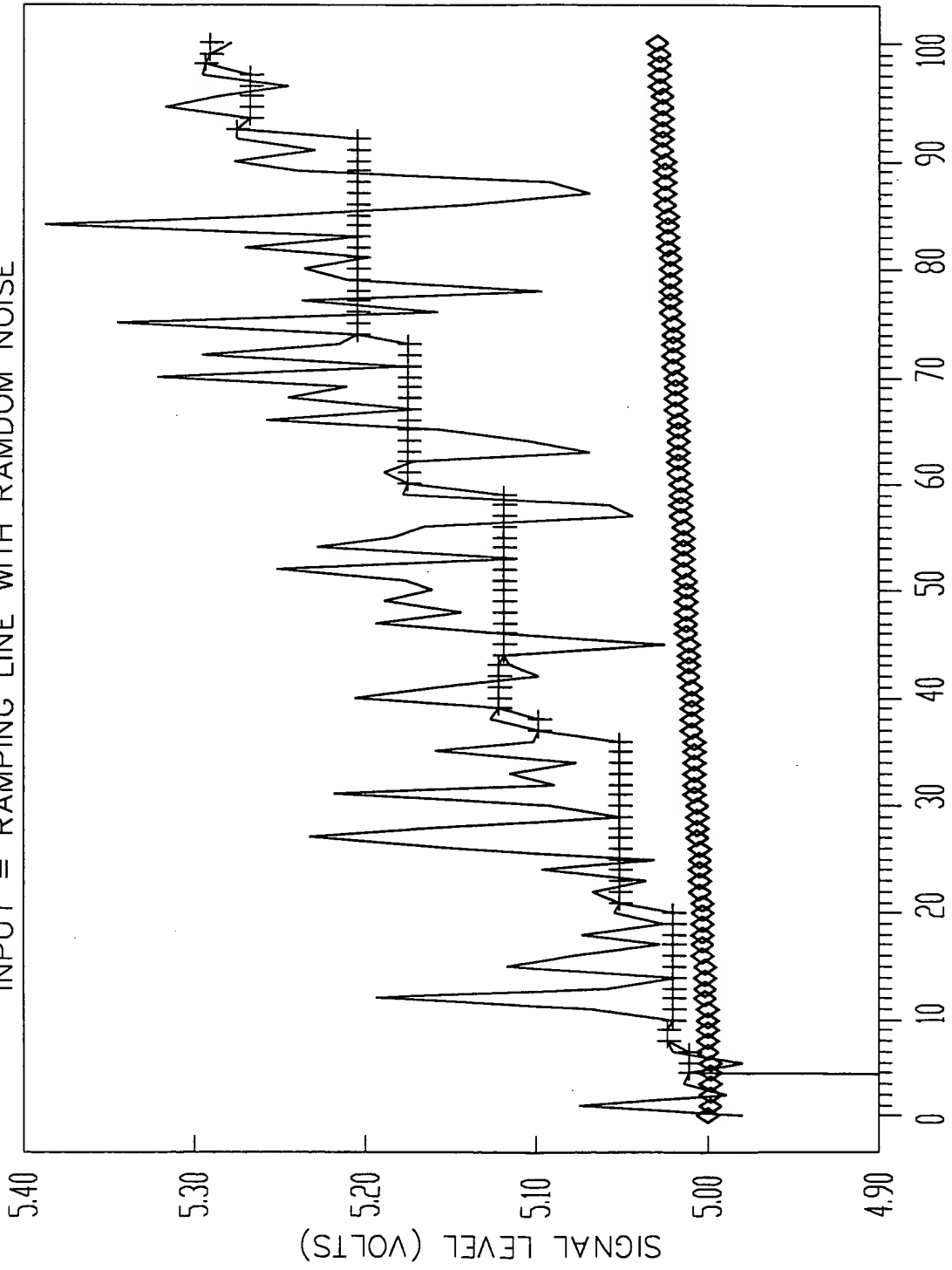


FIGURE 8A

IS-IBC1 FILTER SIMULATION

INPUT = RAMPING LINE WITH RANDOM NOISE



TIME SAMPLE (.034 SECONDS)

-INPUT

+CFS

◇BPE

FIGURE 8B

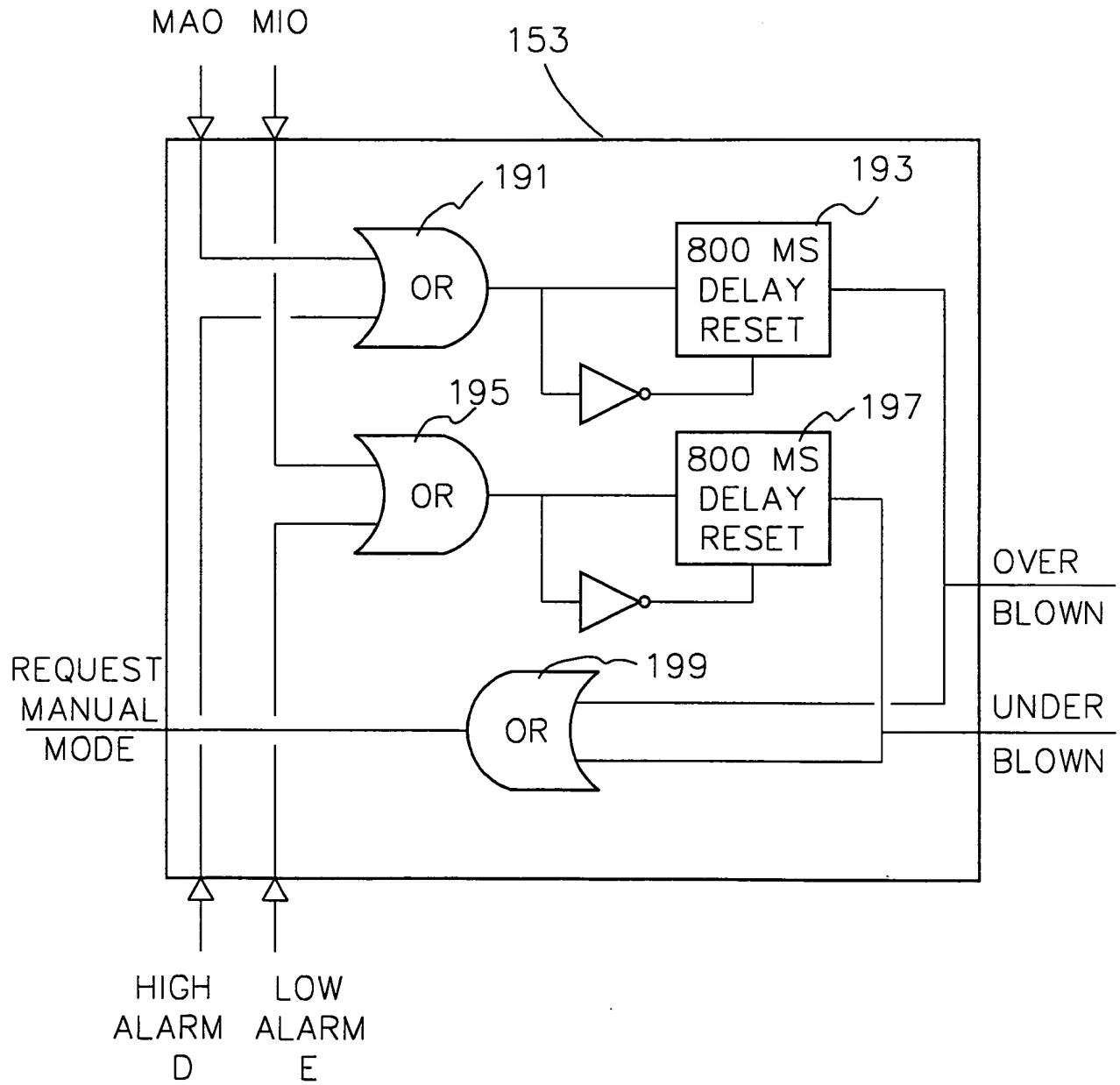


FIGURE 9

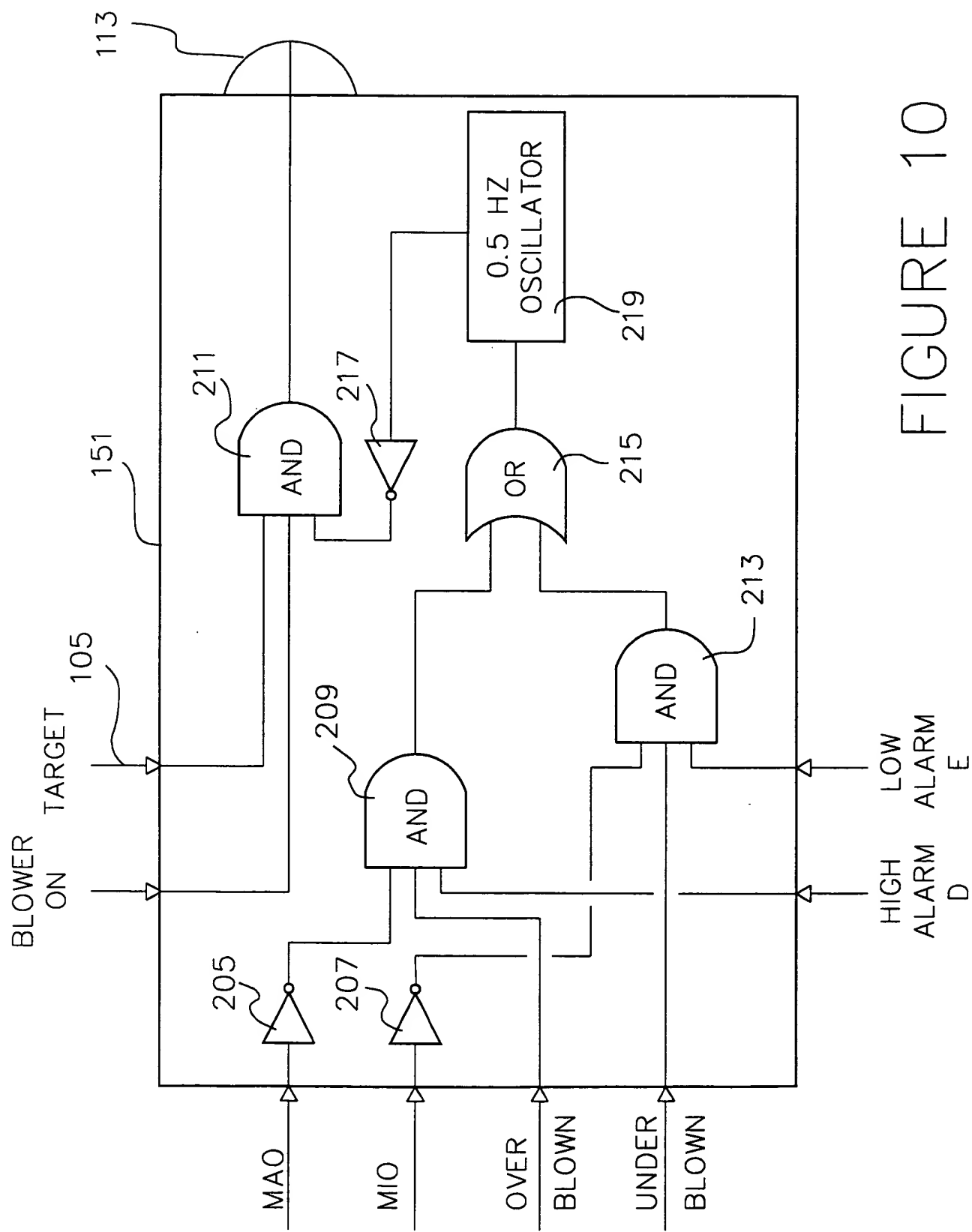


FIGURE 10

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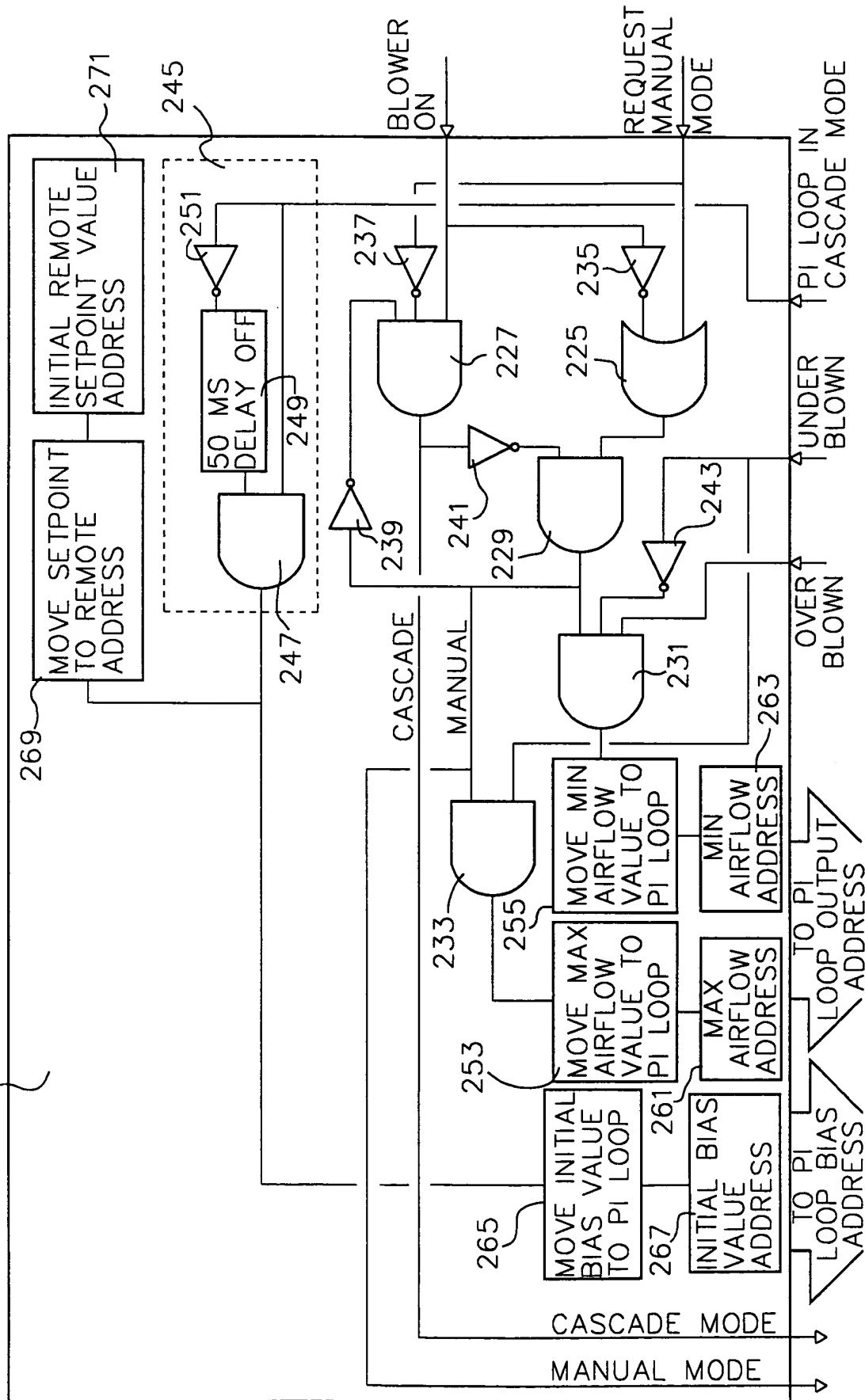


FIGURE 11

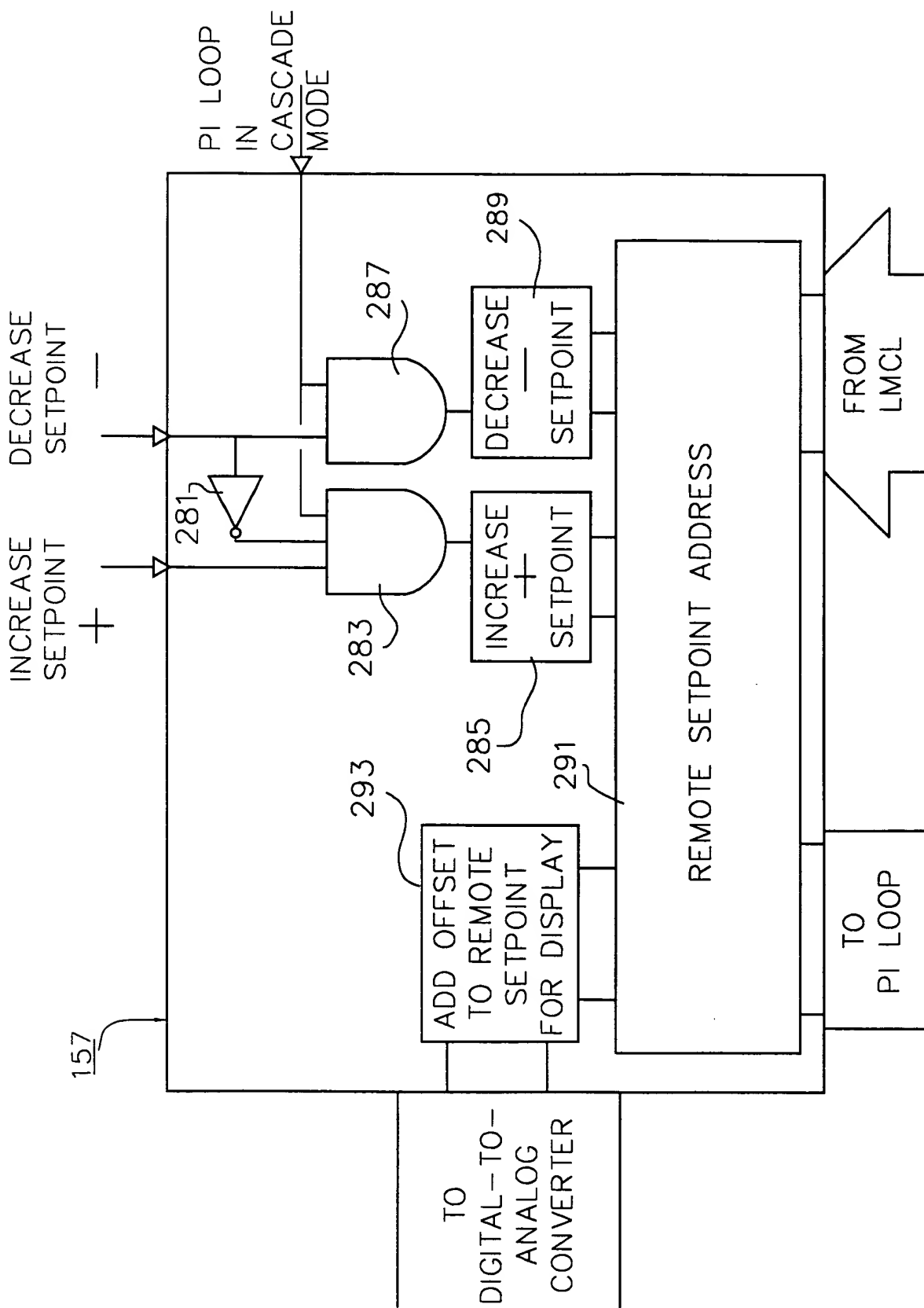


FIGURE 12

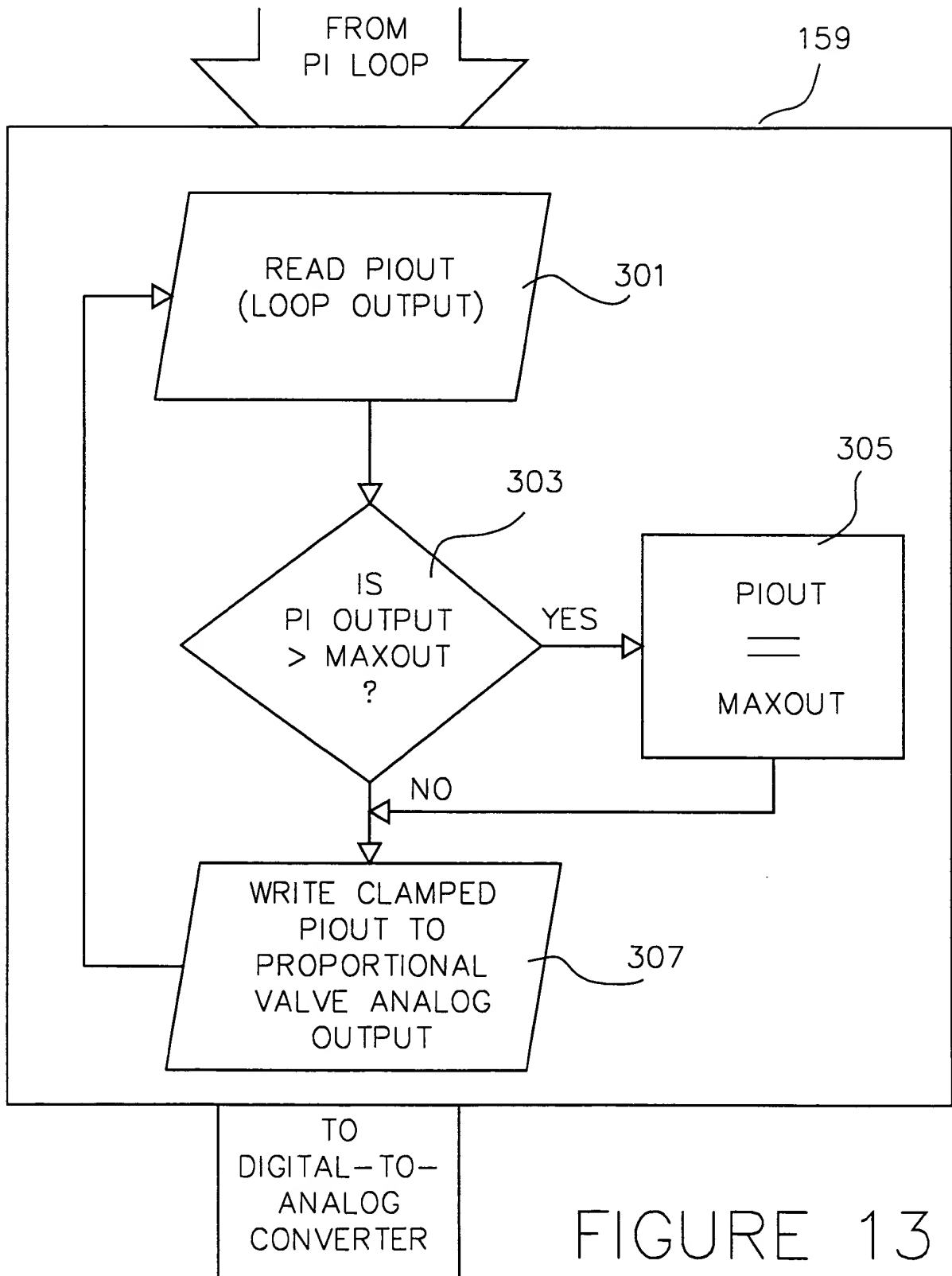


FIGURE 13

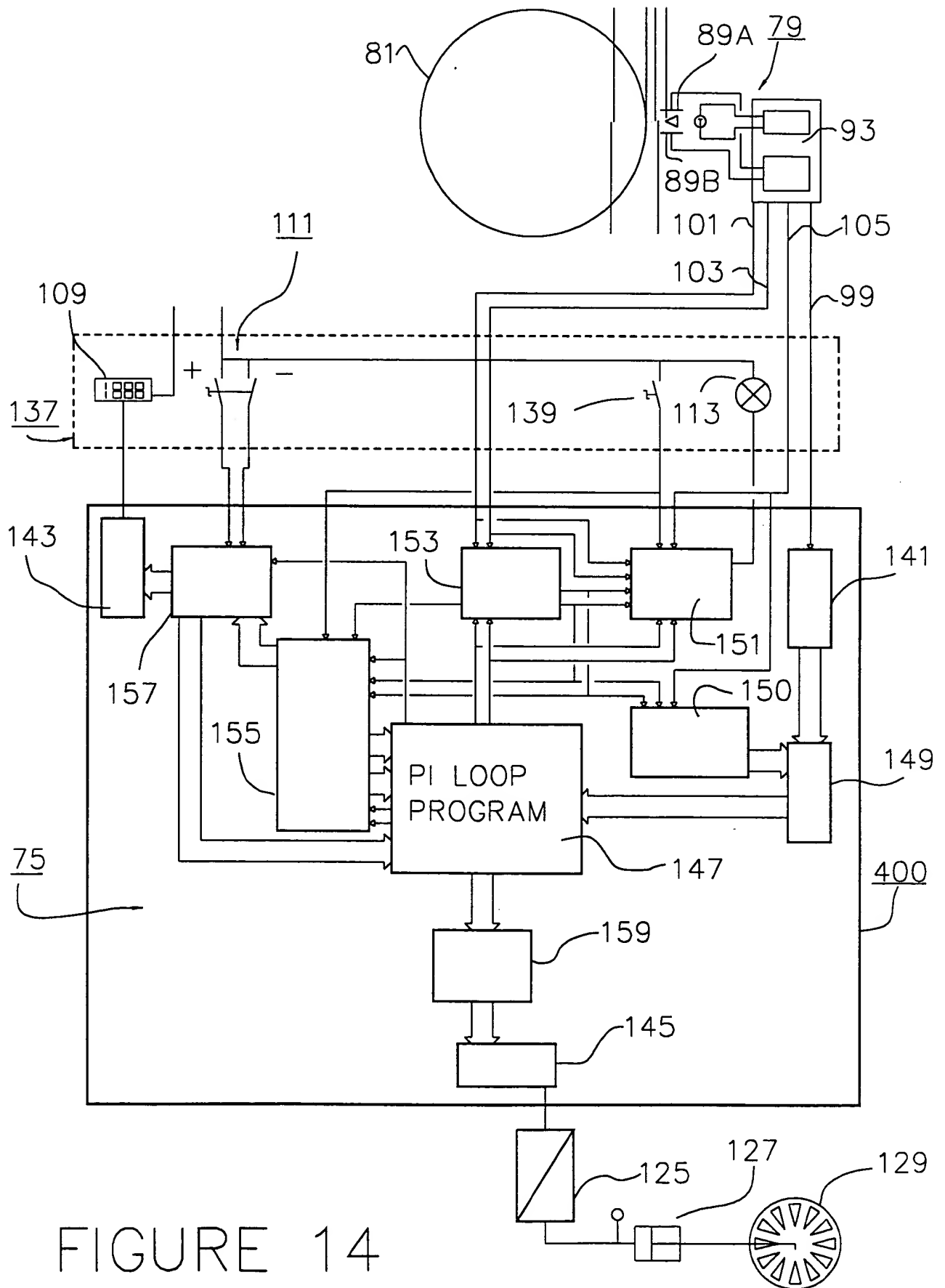


FIGURE 14

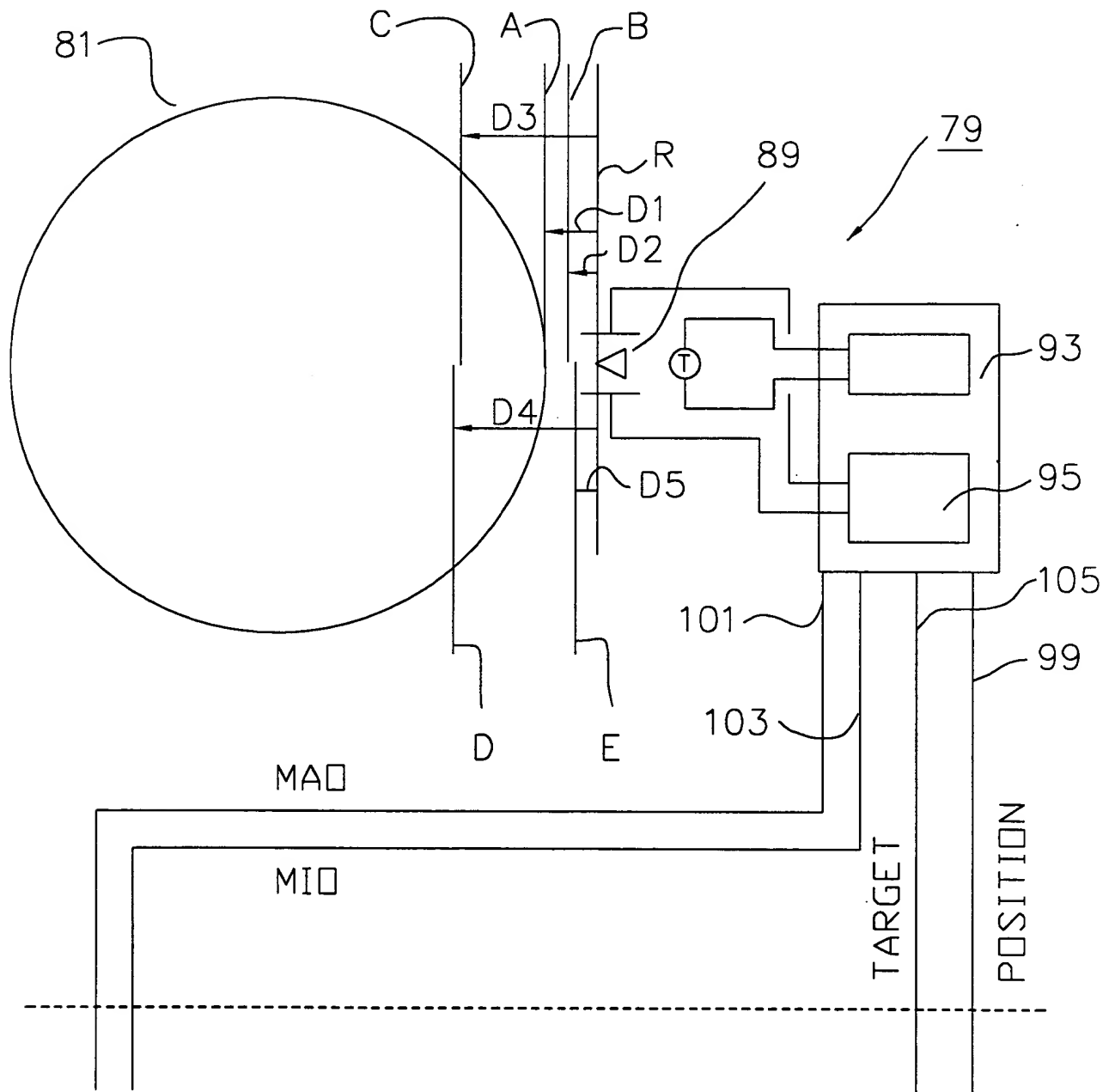


FIGURE 15

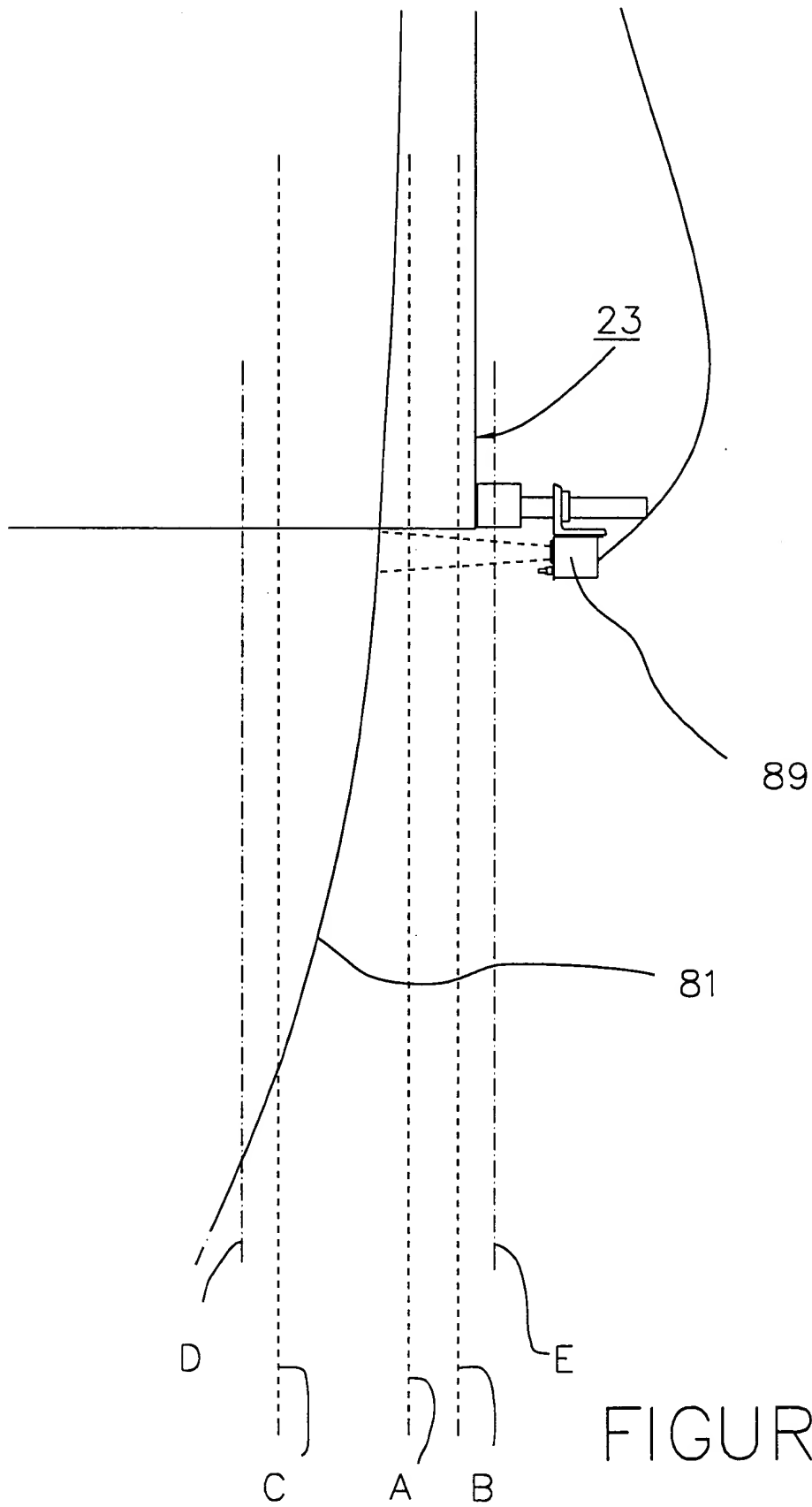


FIGURE 16

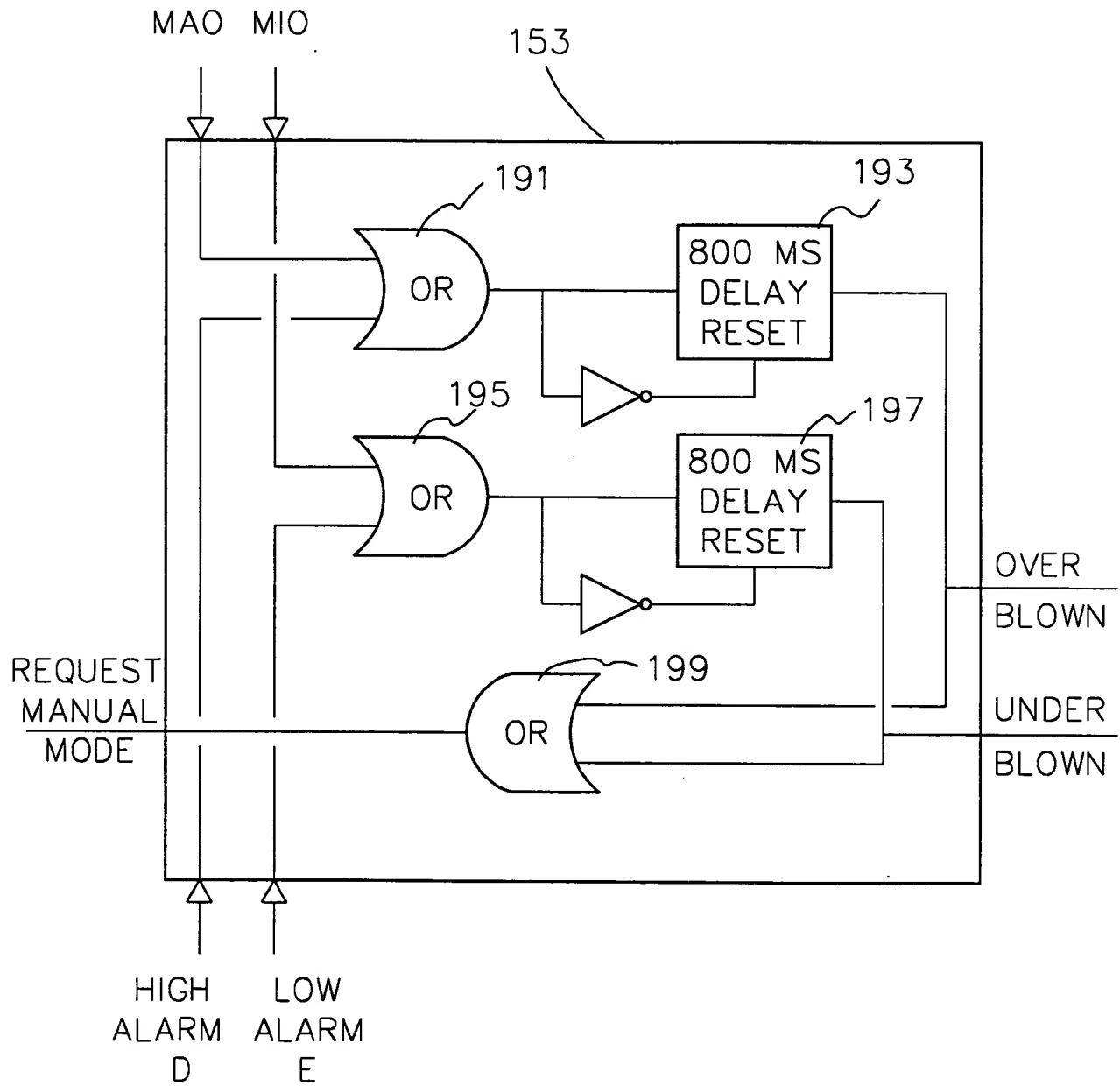


FIGURE 17

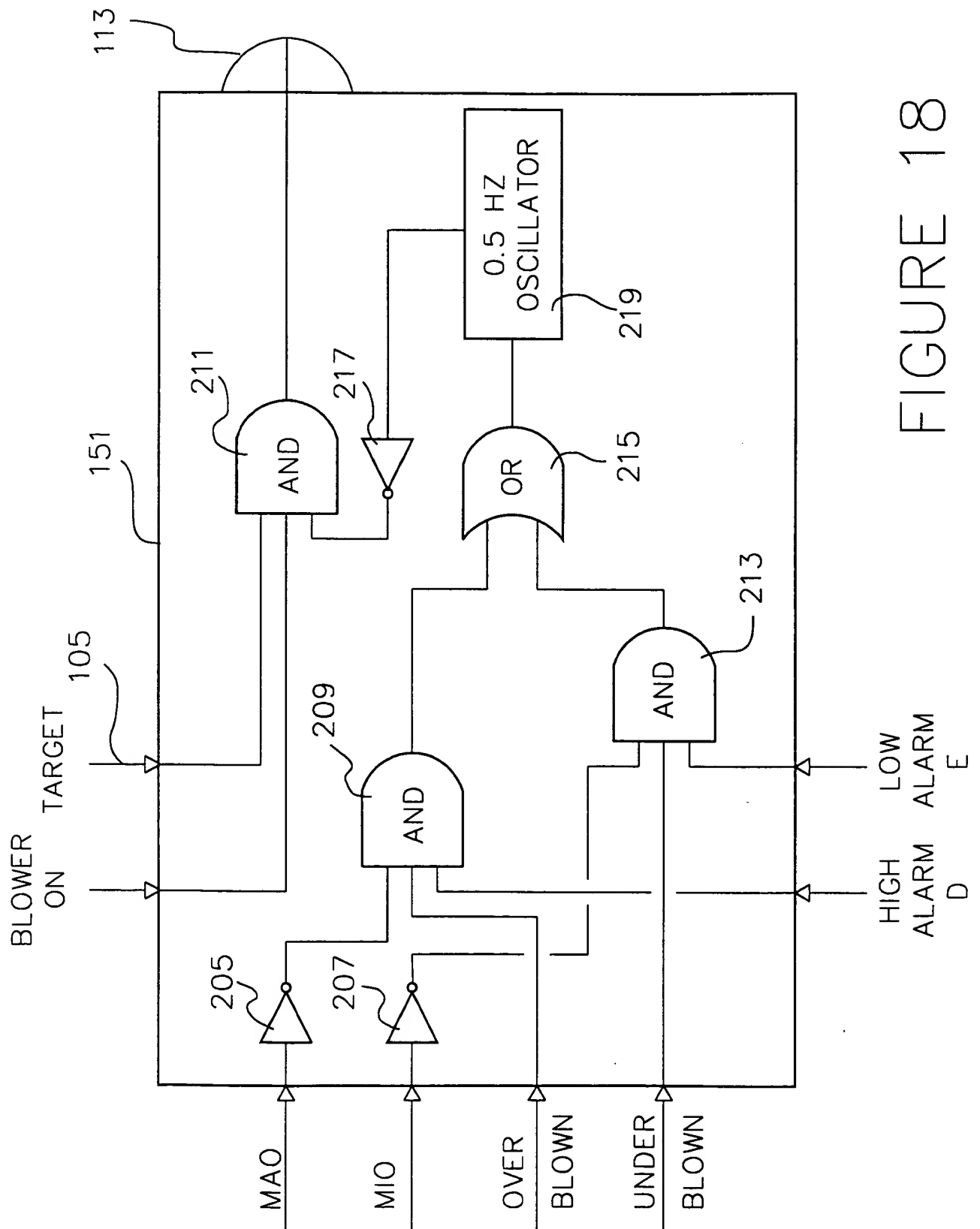


FIGURE 18

155

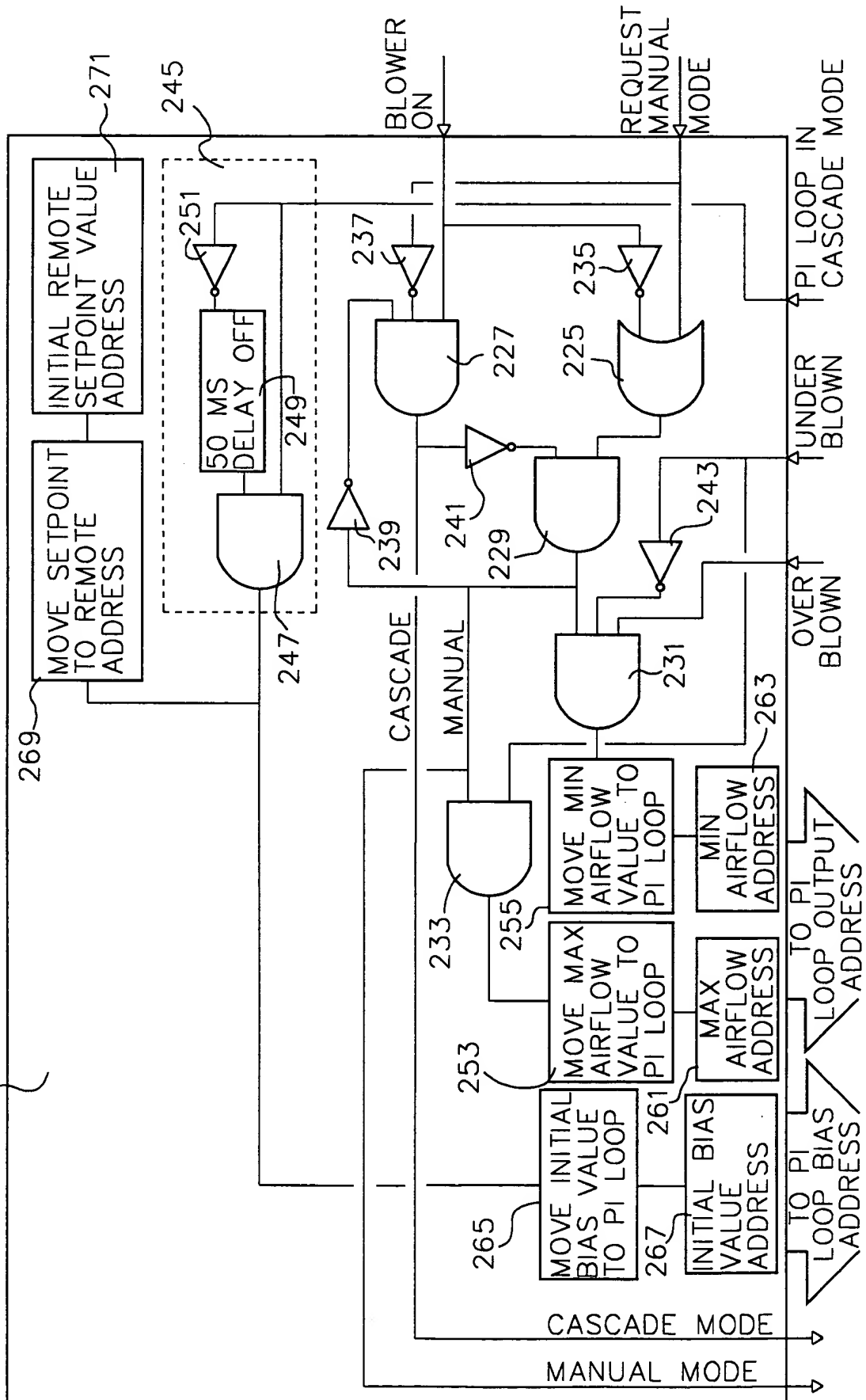


FIGURE 19

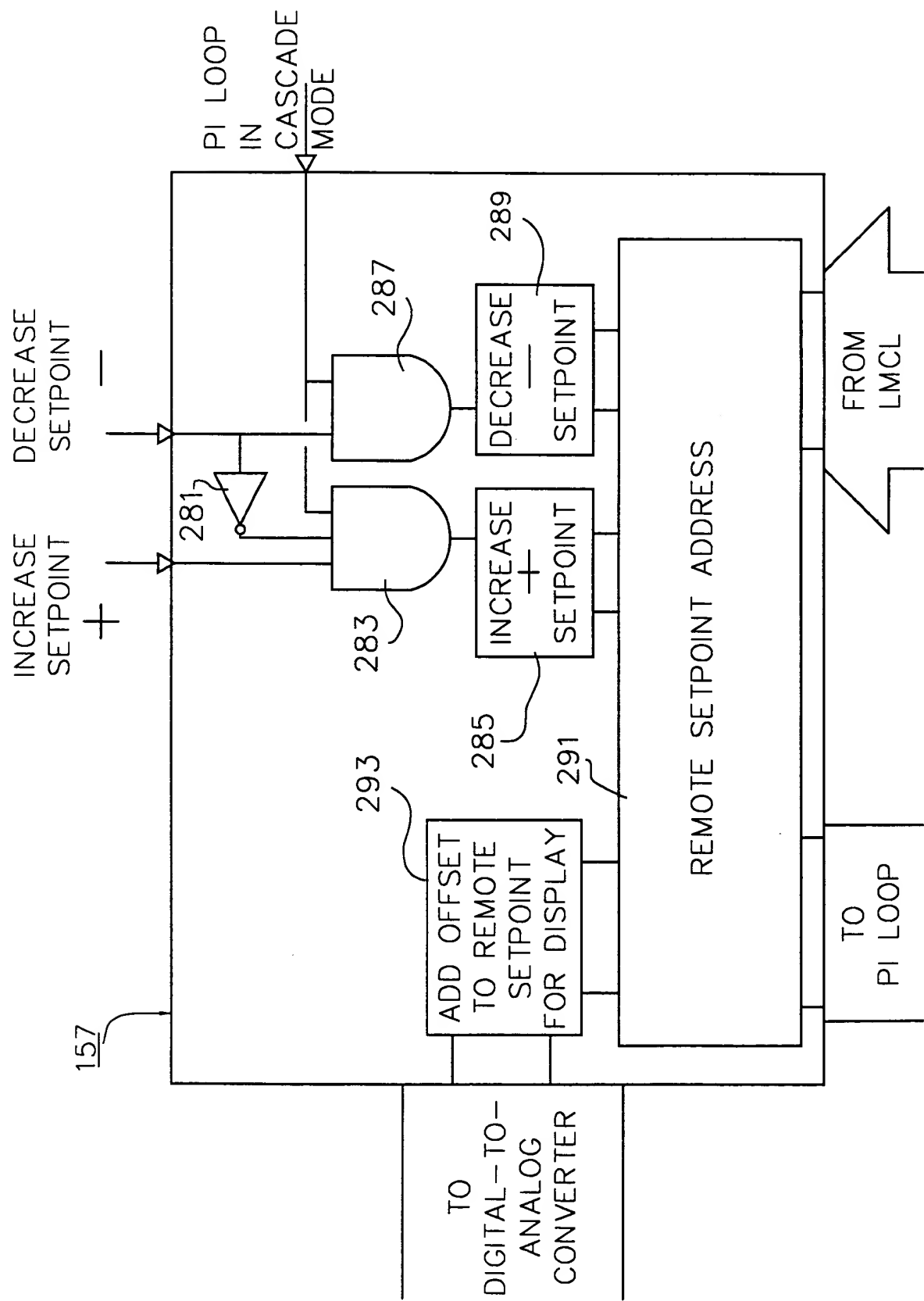


FIGURE 20

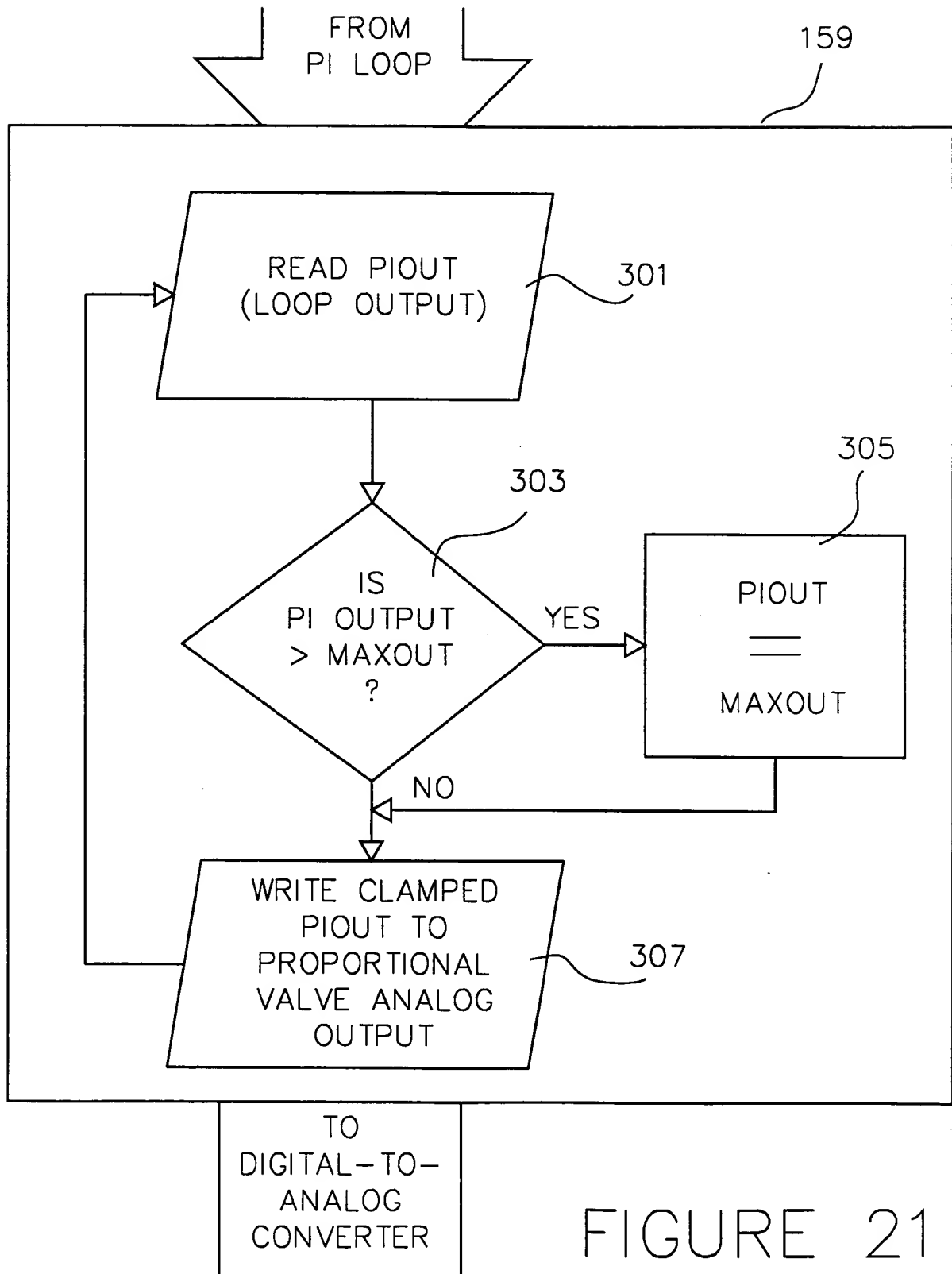


FIGURE 21

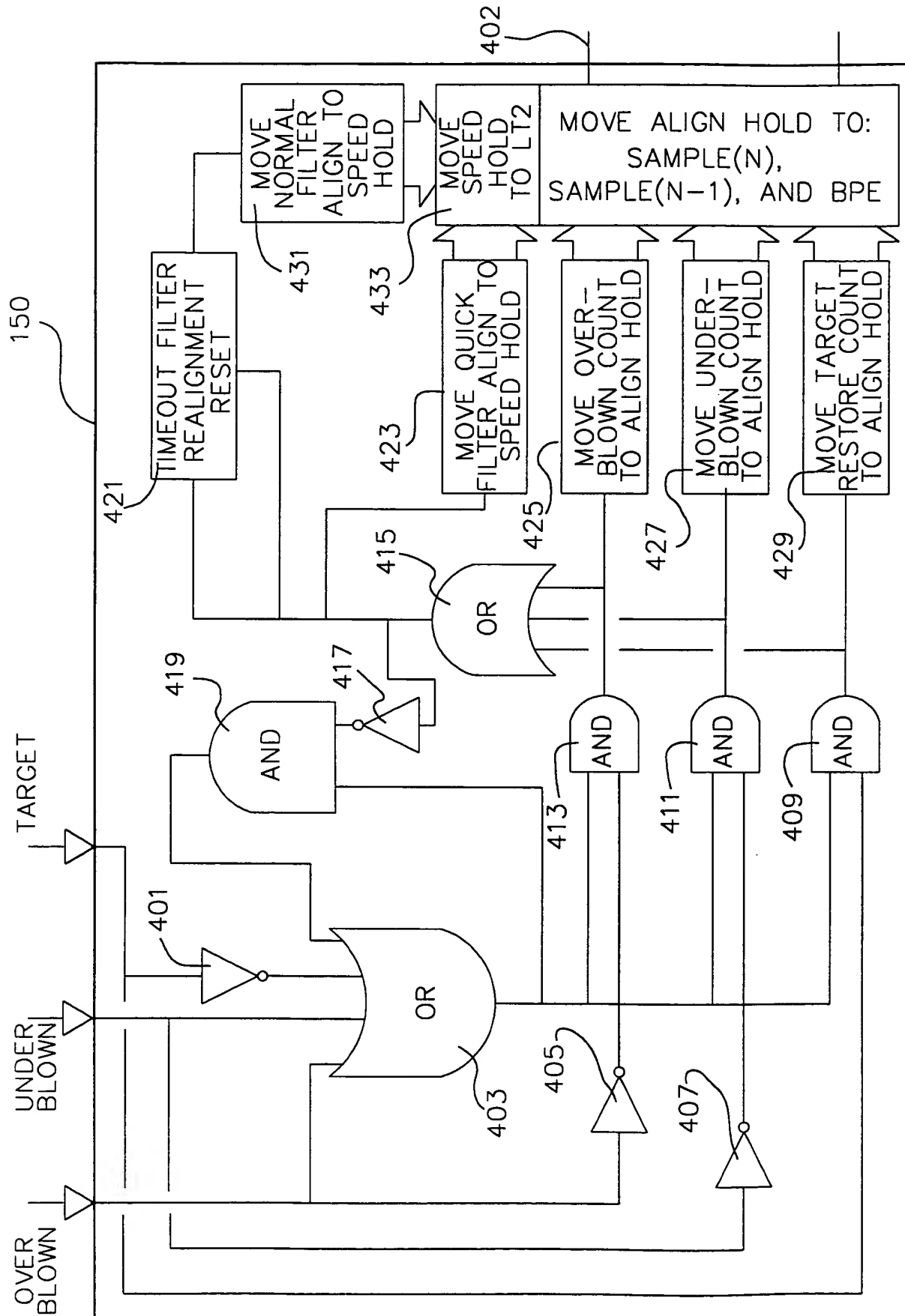
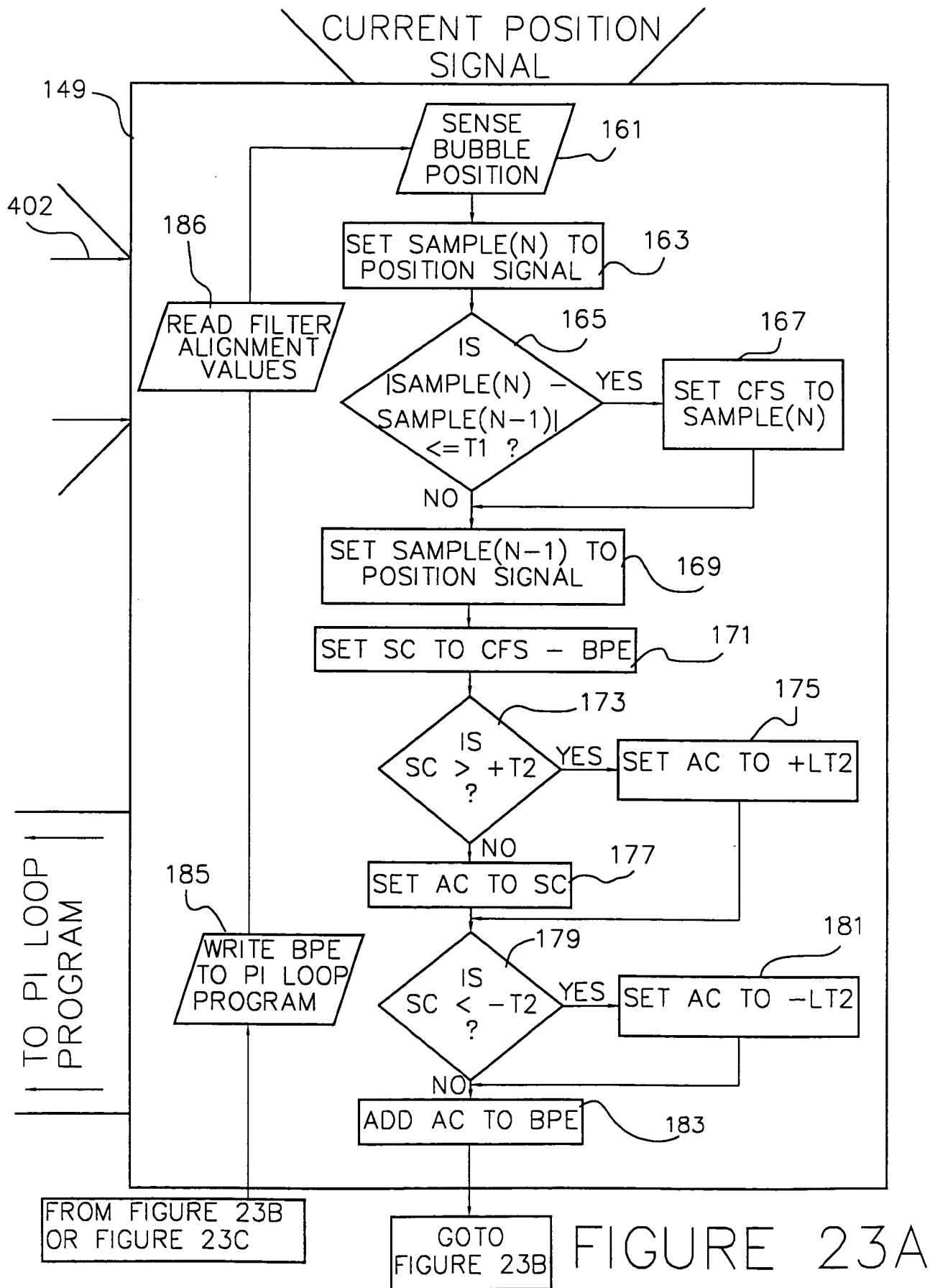


FIGURE 22



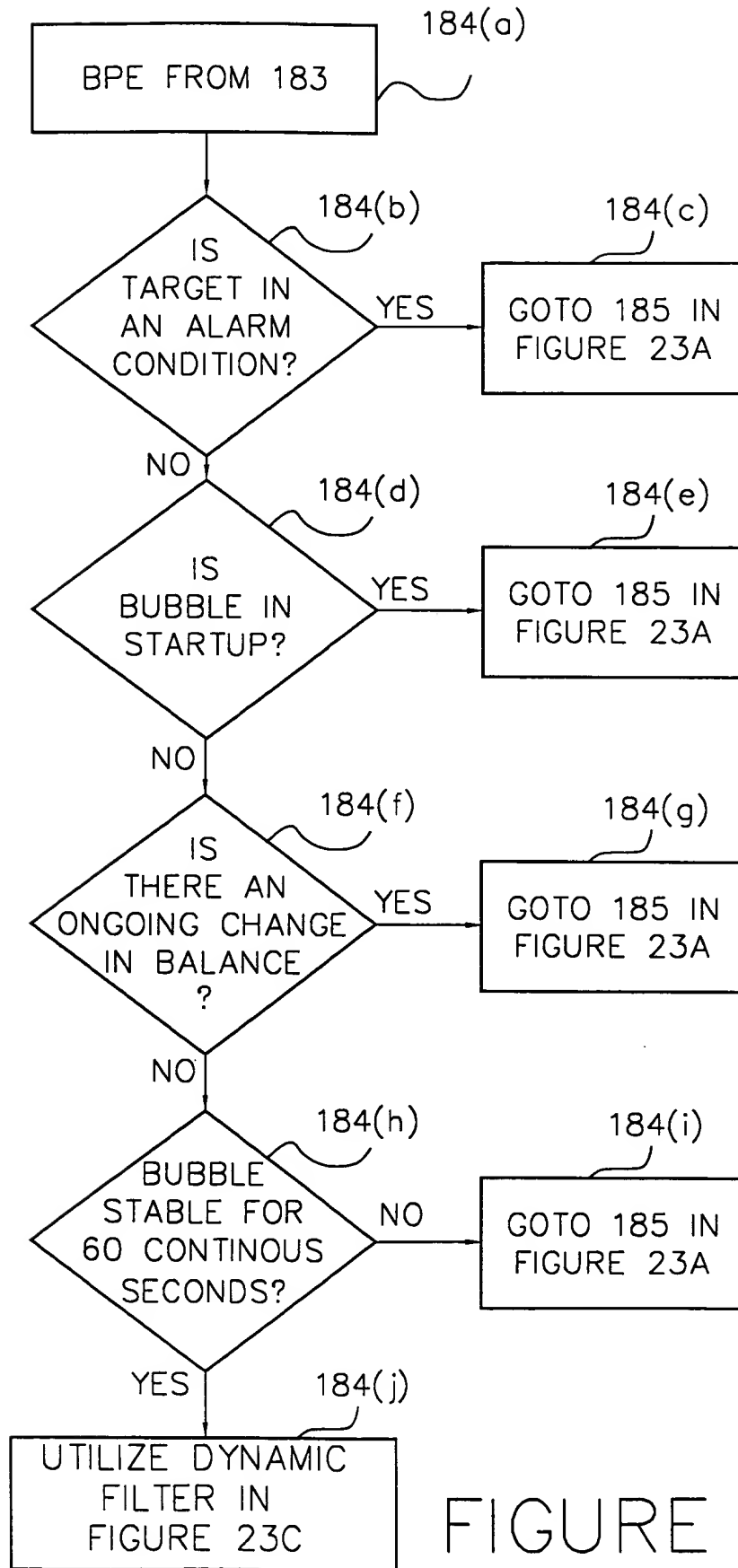
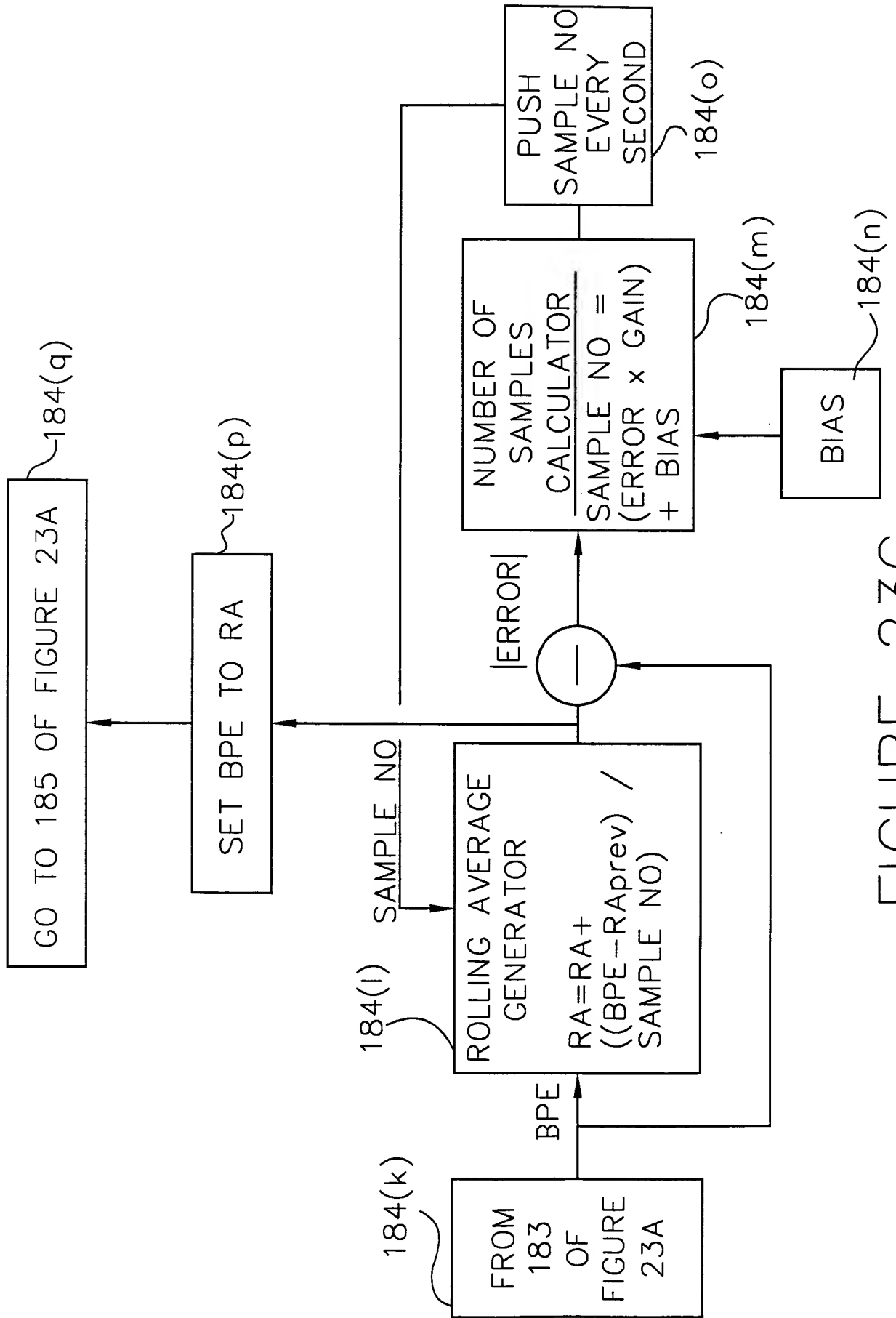


FIGURE 23B



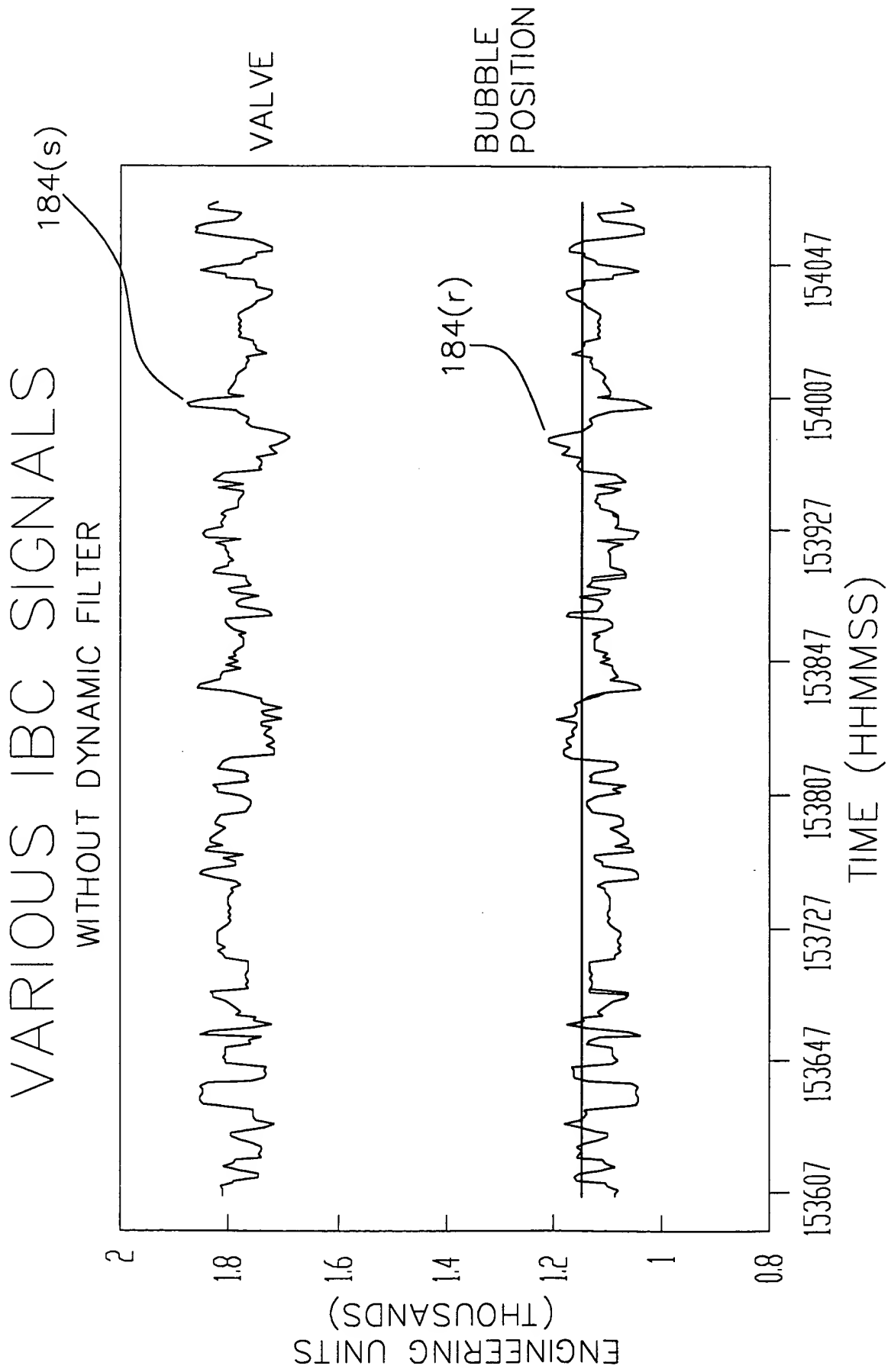


FIGURE 23D

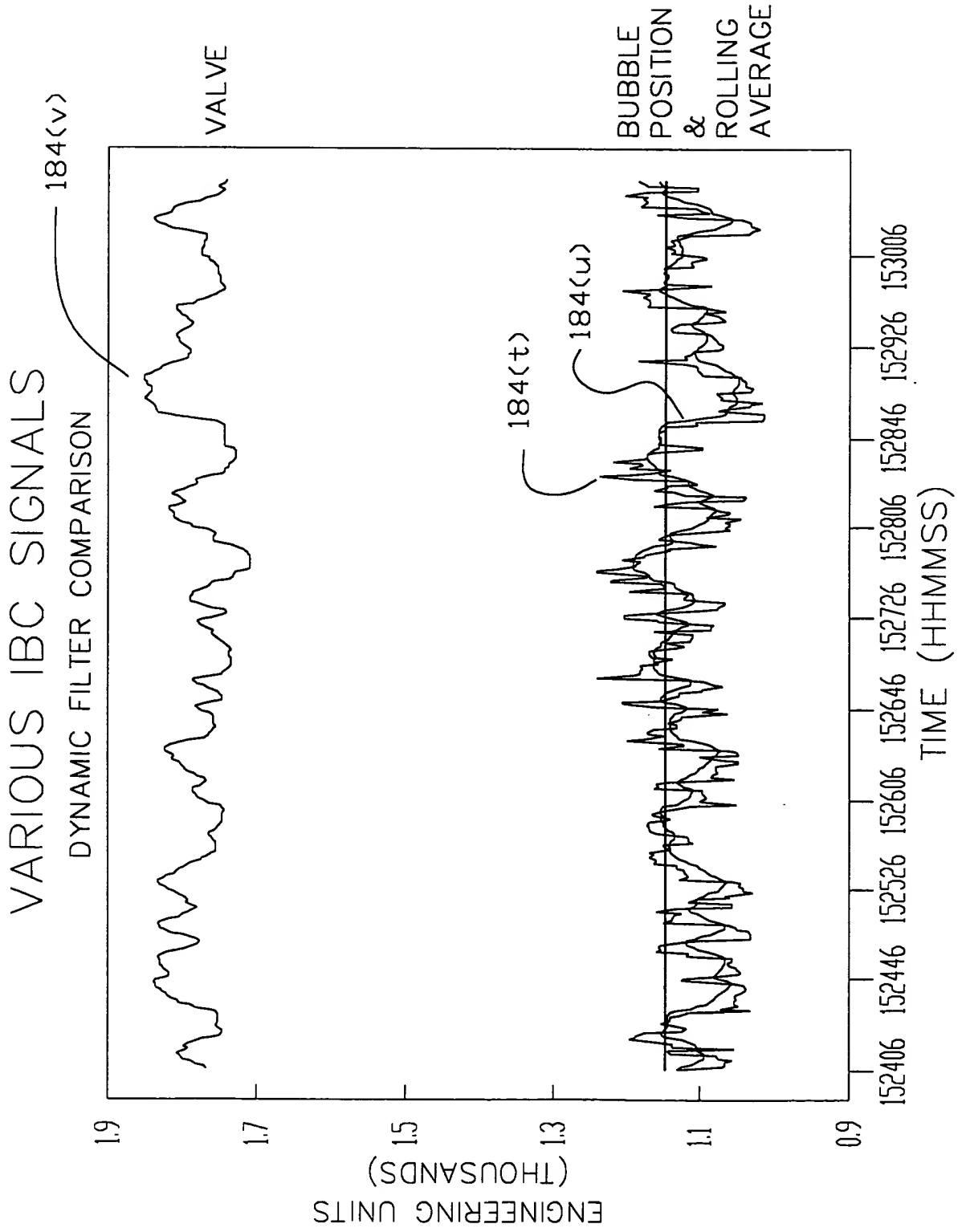


FIGURE 23E

FREQUENCY DISTRIBUTION COMPARISON
DYNAMIC FILTER VS. BPE

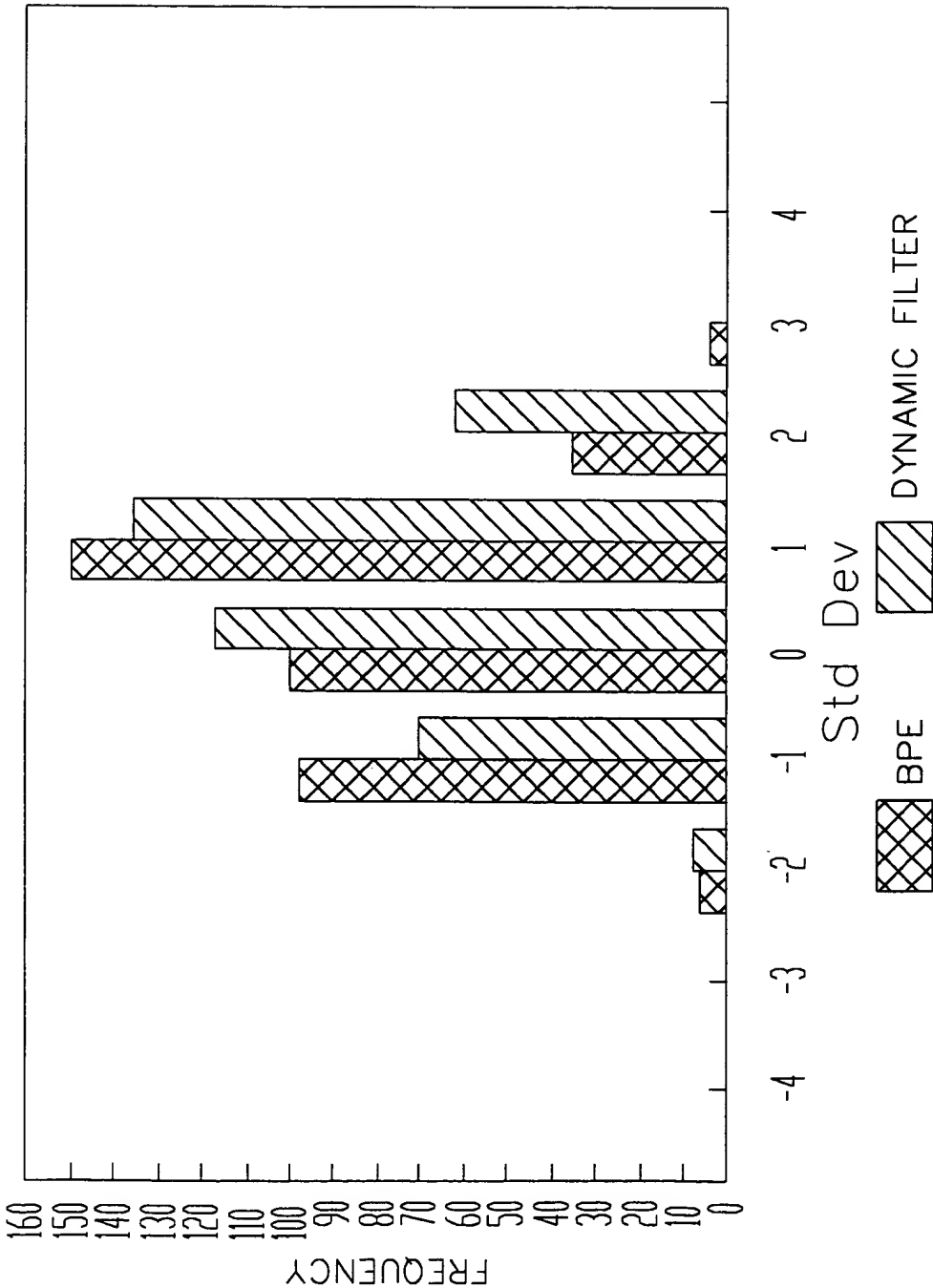


FIGURE 23F

VARIOUS IBC SIGNALS
START-UP WITH DYNAMIC FILTER

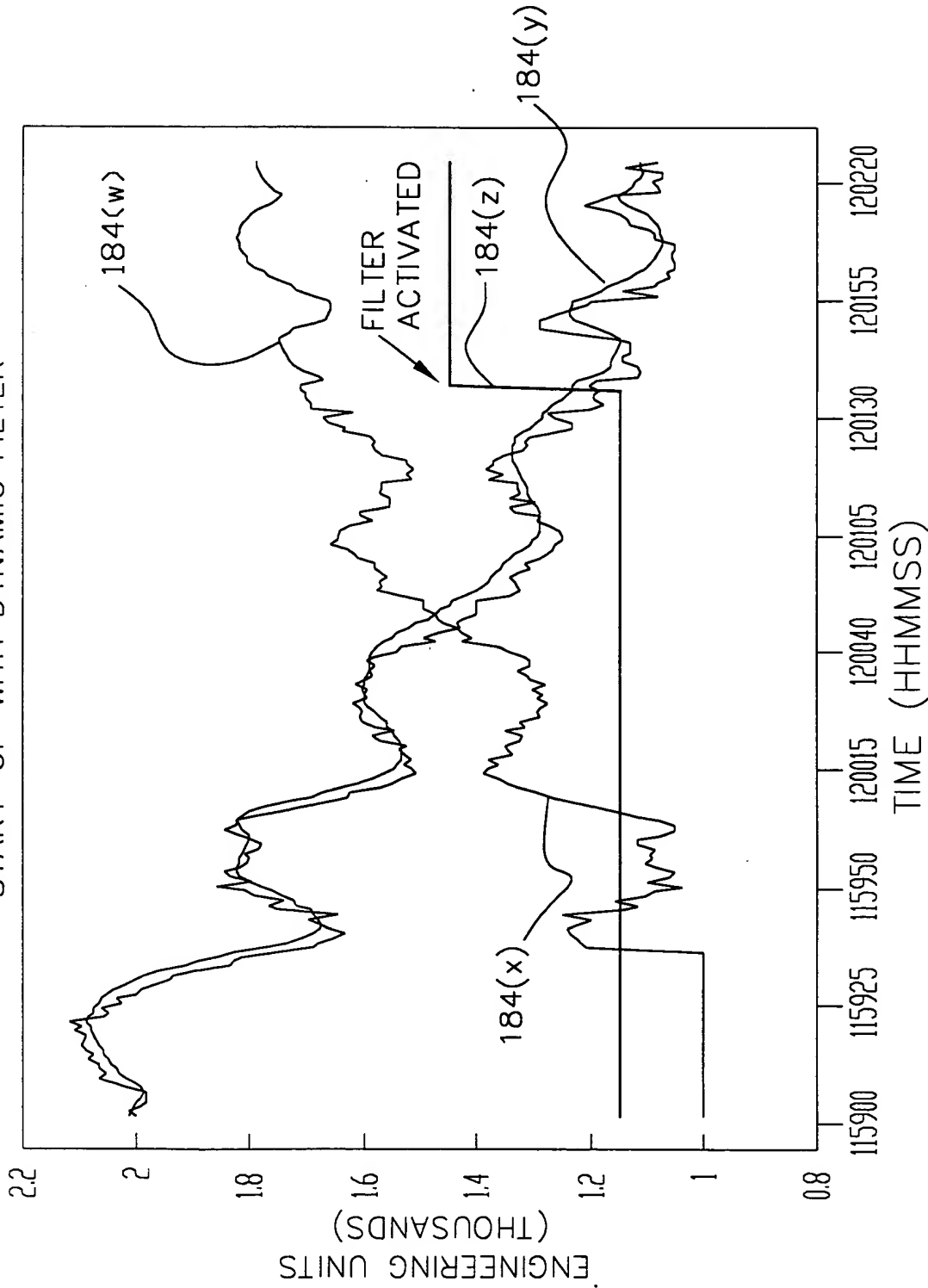
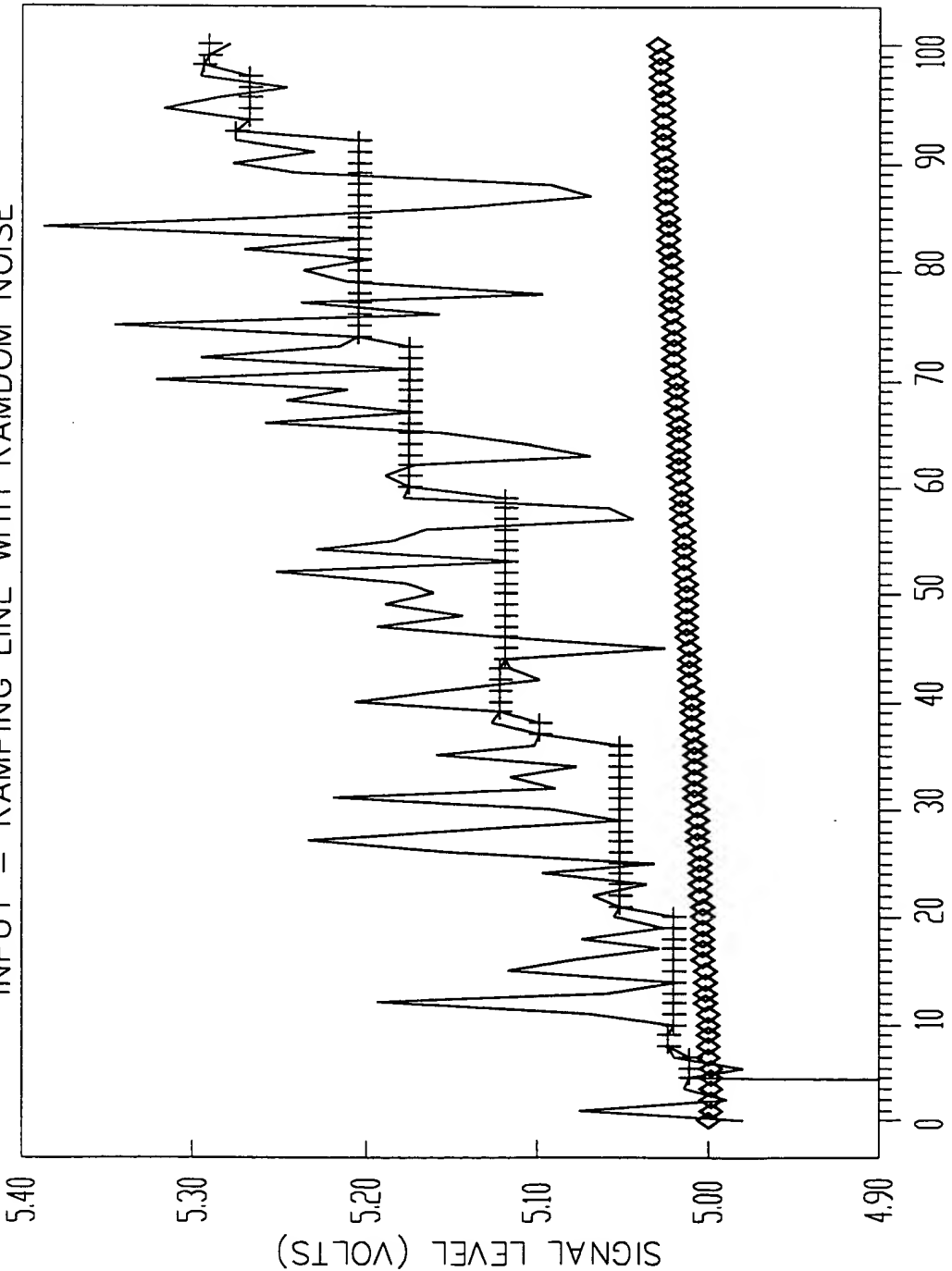


FIGURE 23G

IS-IBC1 FILTER SIMULATION
INPUT = RAMPING LINE WITH RANDOM NOISE



TIME SAMPLE (.034 SECONDS)

-INPUT +CFS ♦BPE

FIGURE 24

FIGURE 25A

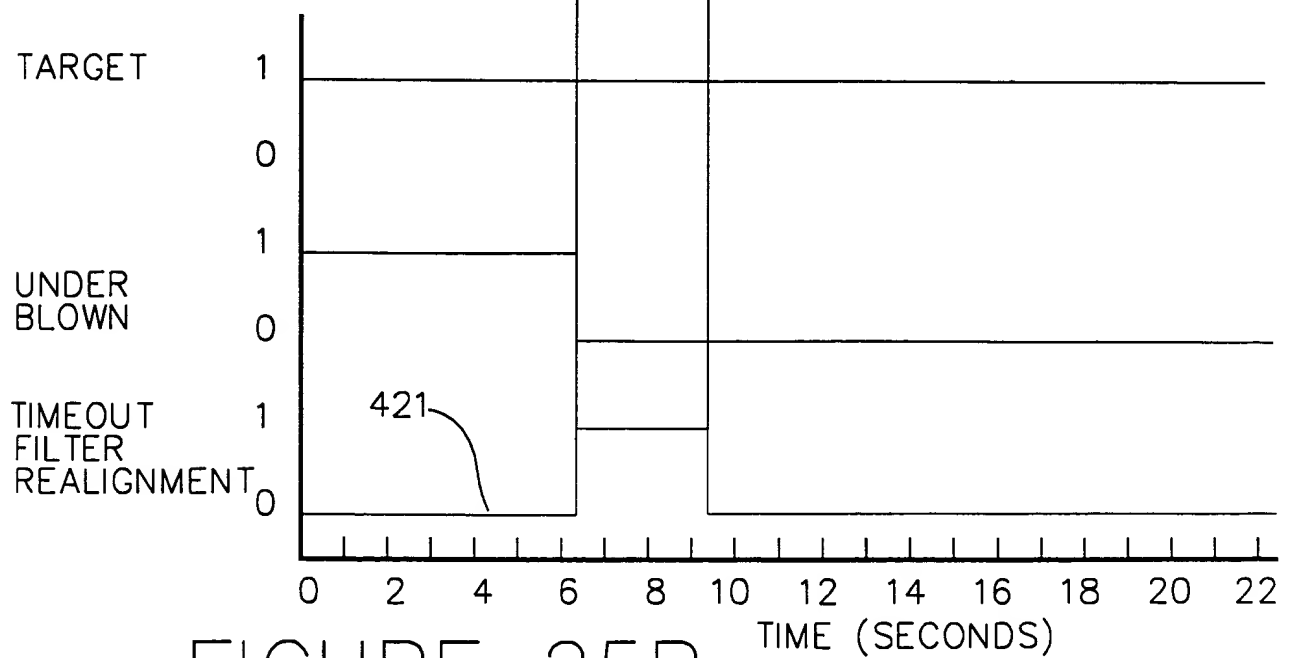
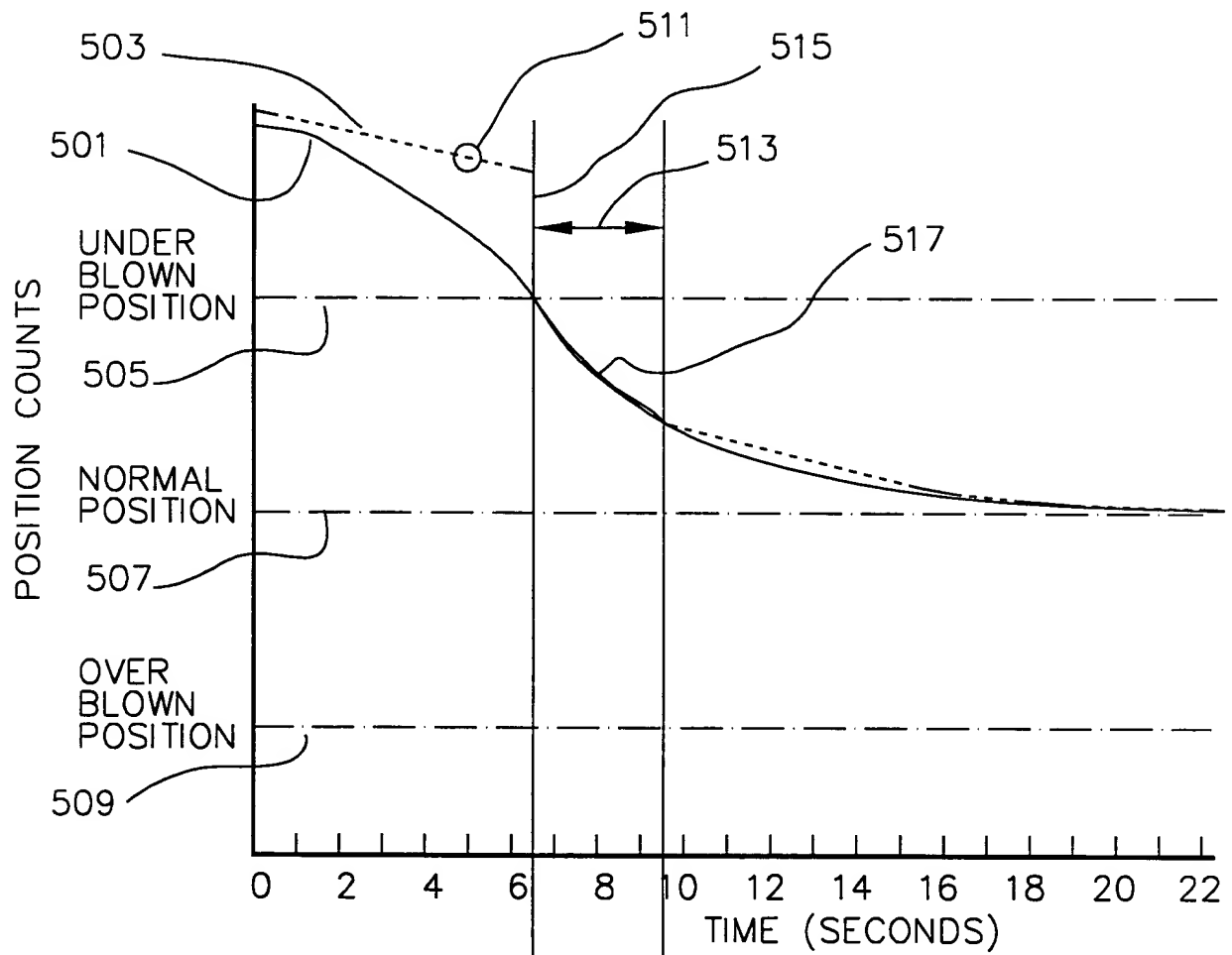


FIGURE 25B

FIGURE 26A

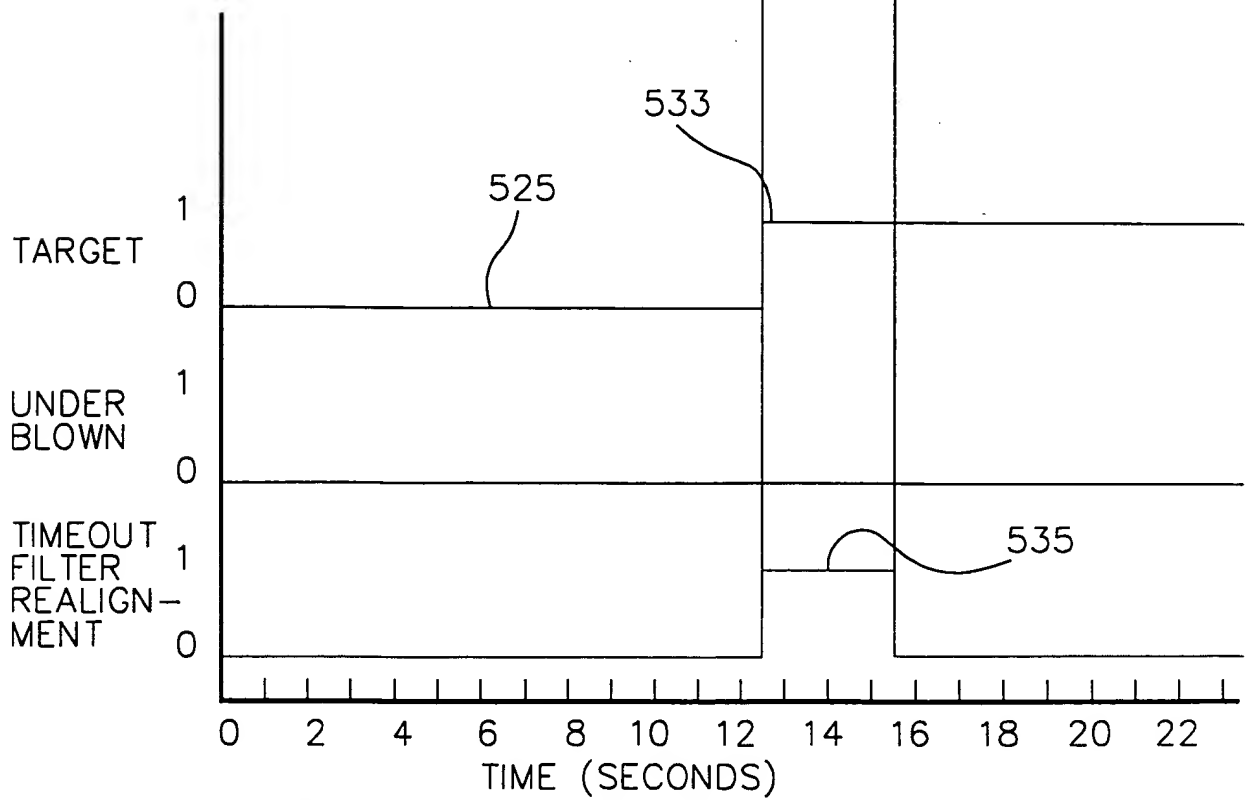
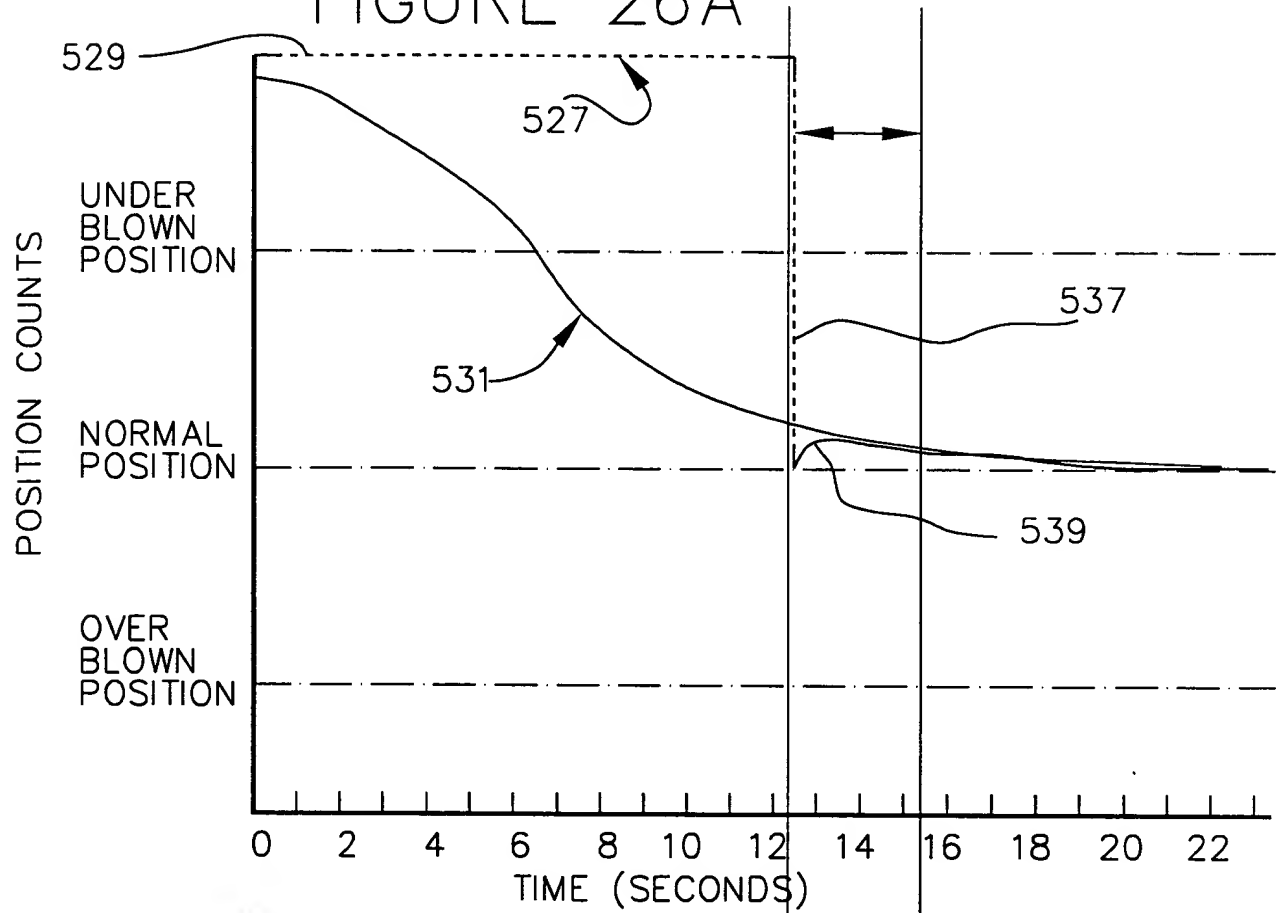


FIGURE 26B

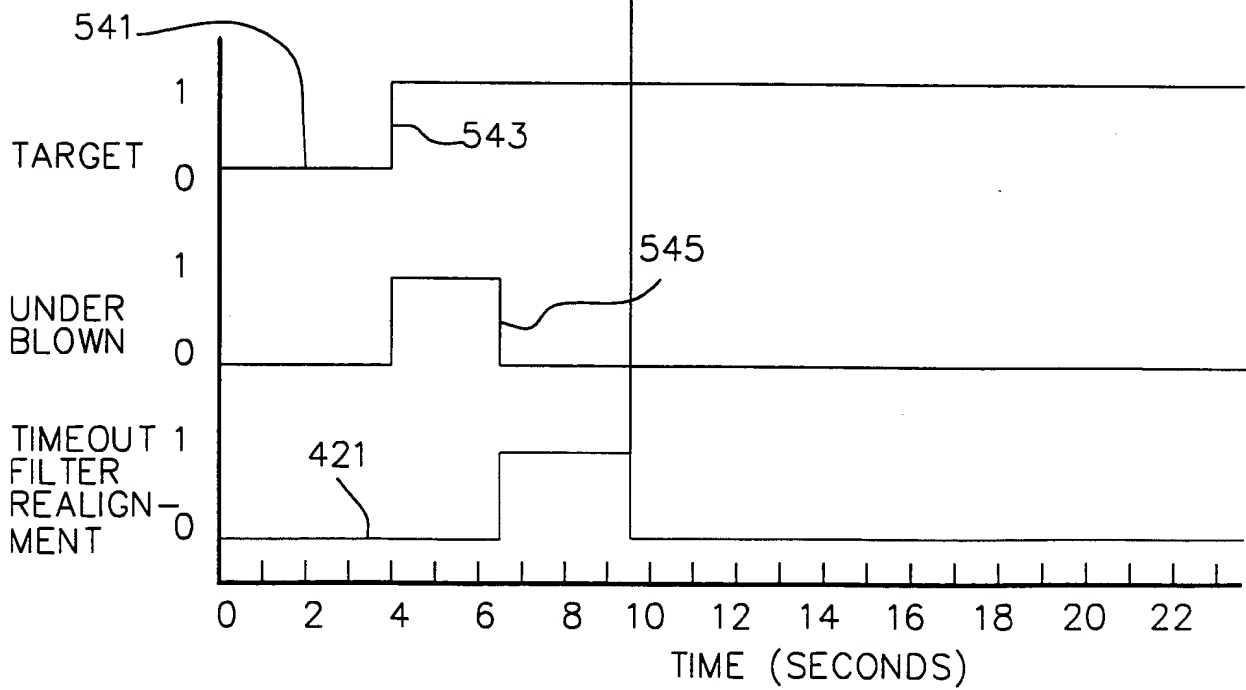
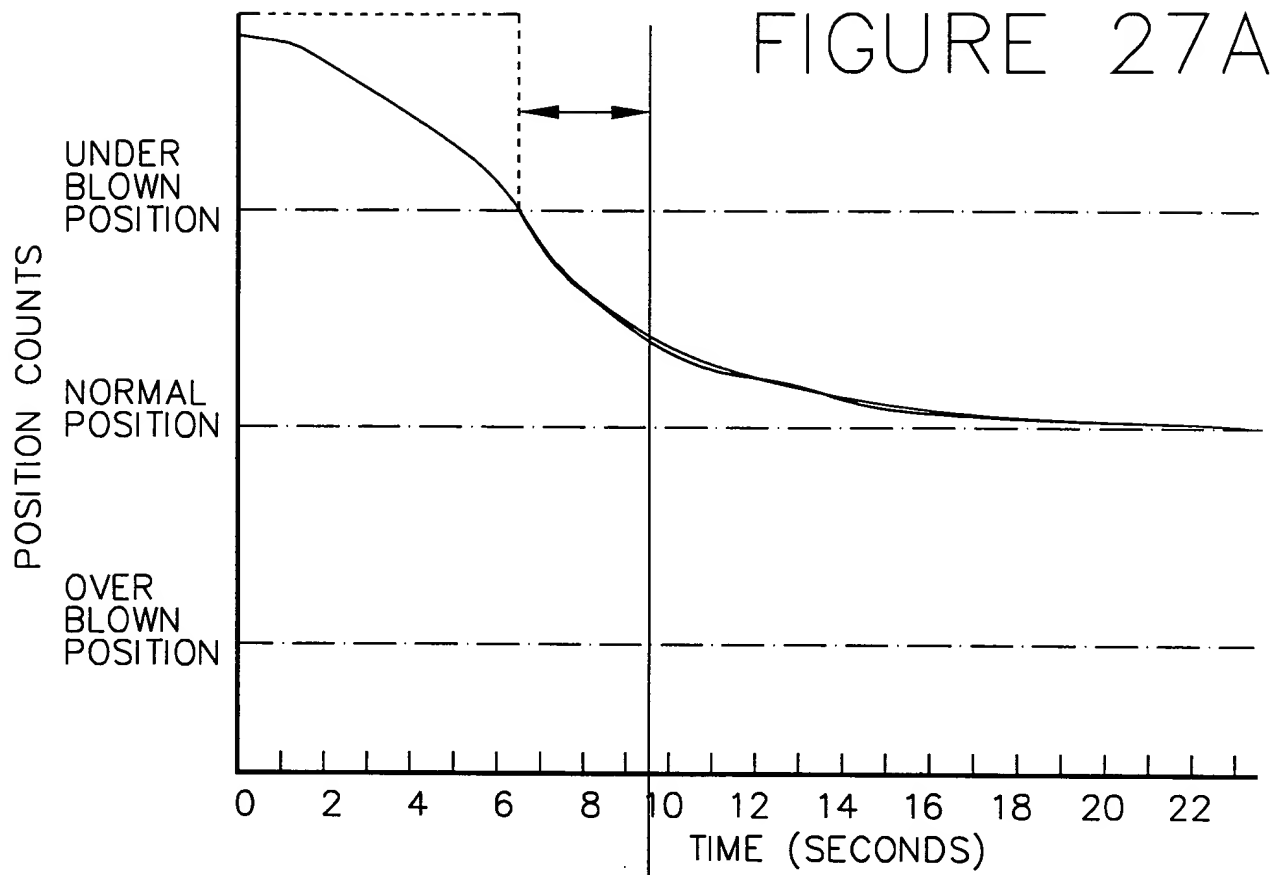


FIGURE 27B

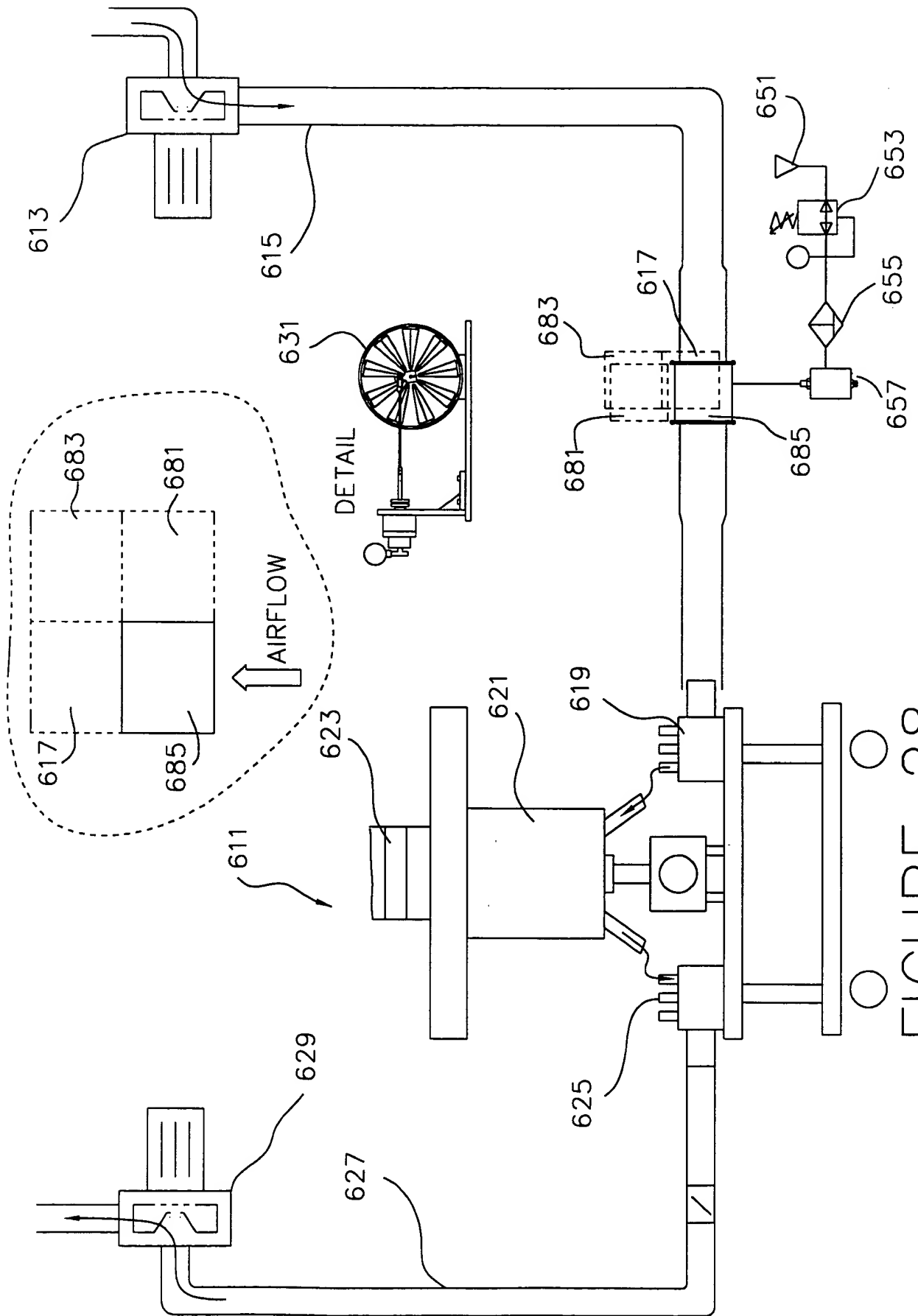
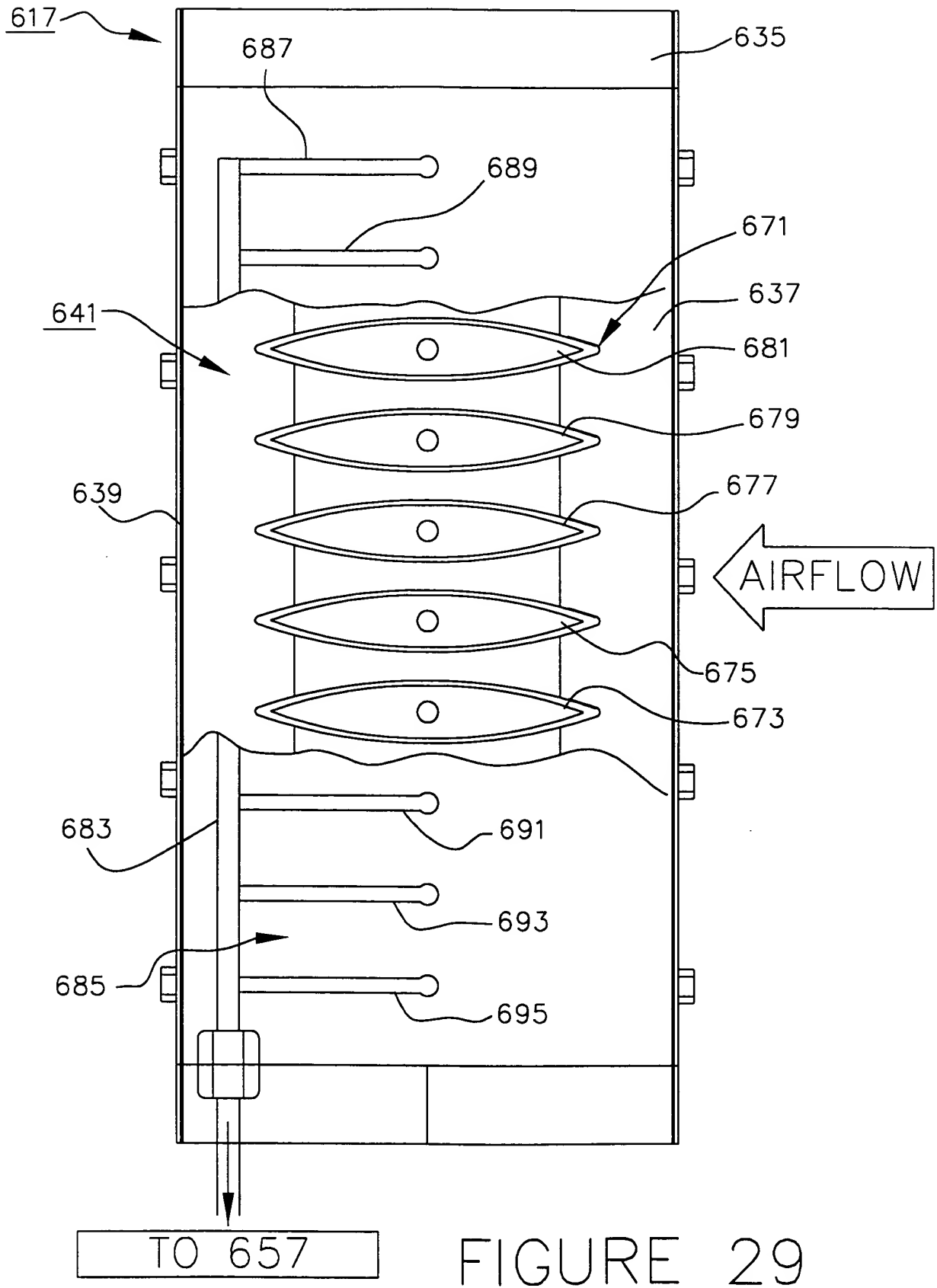


FIGURE 28



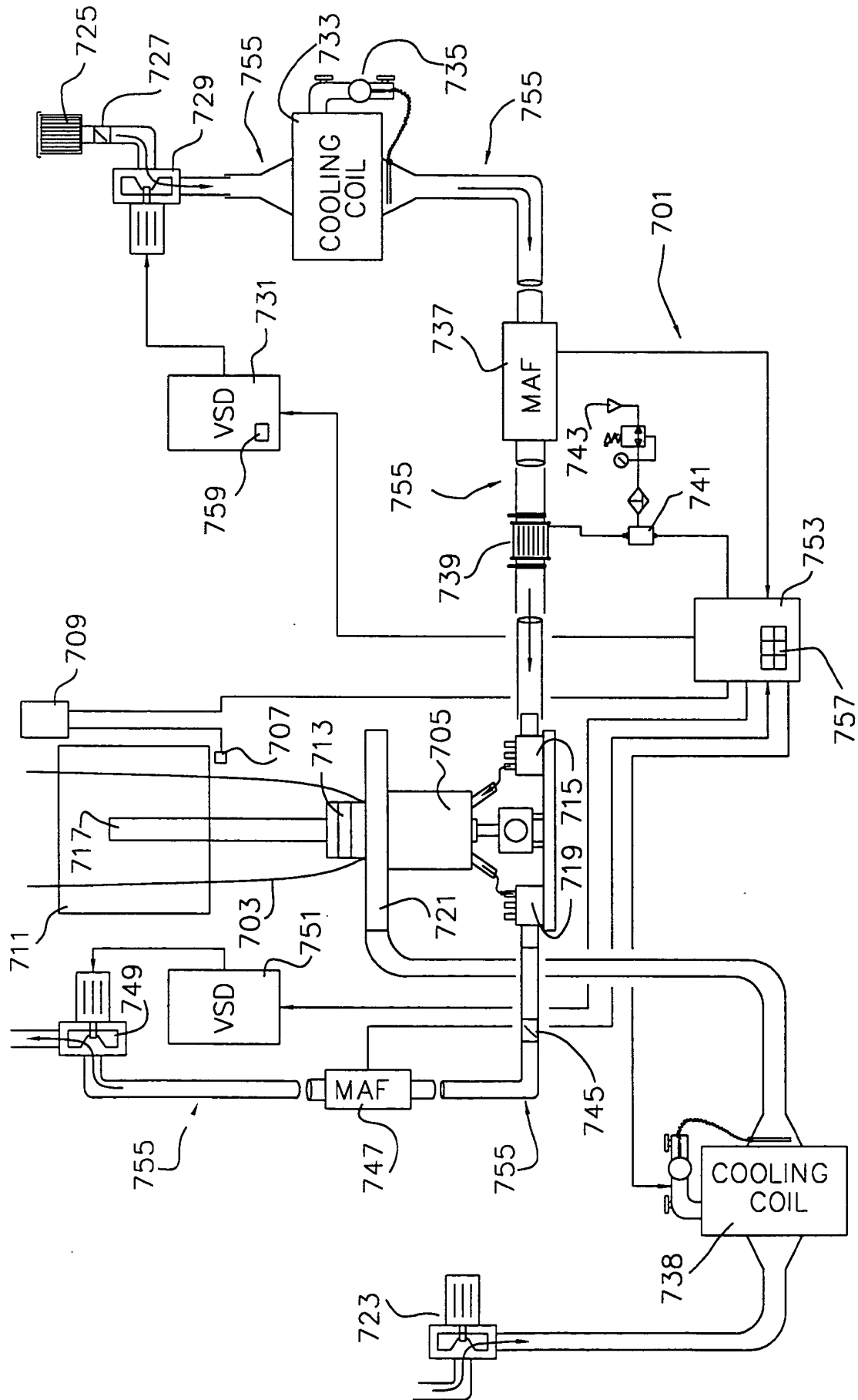


FIGURE 30

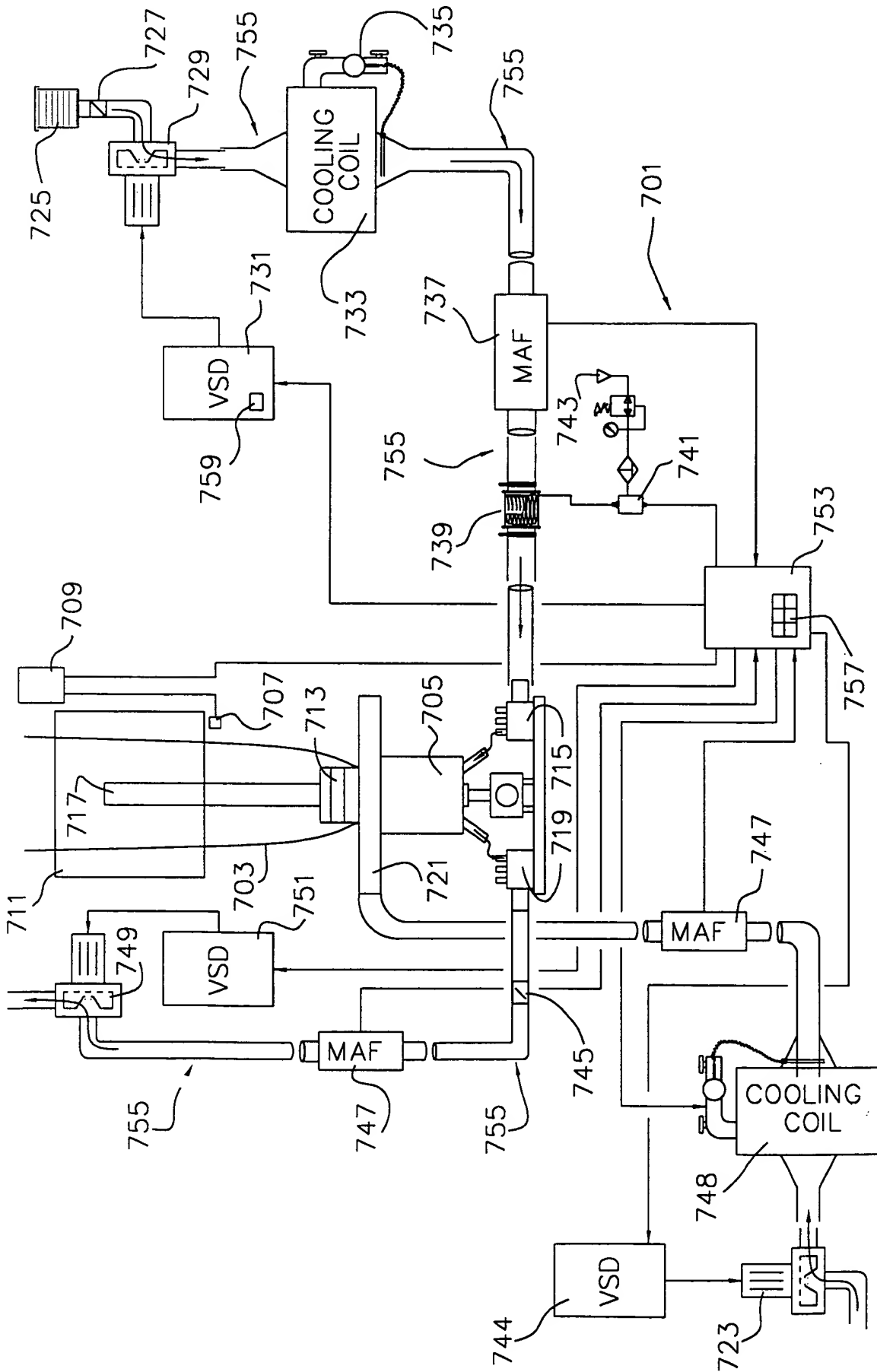


FIGURE 31

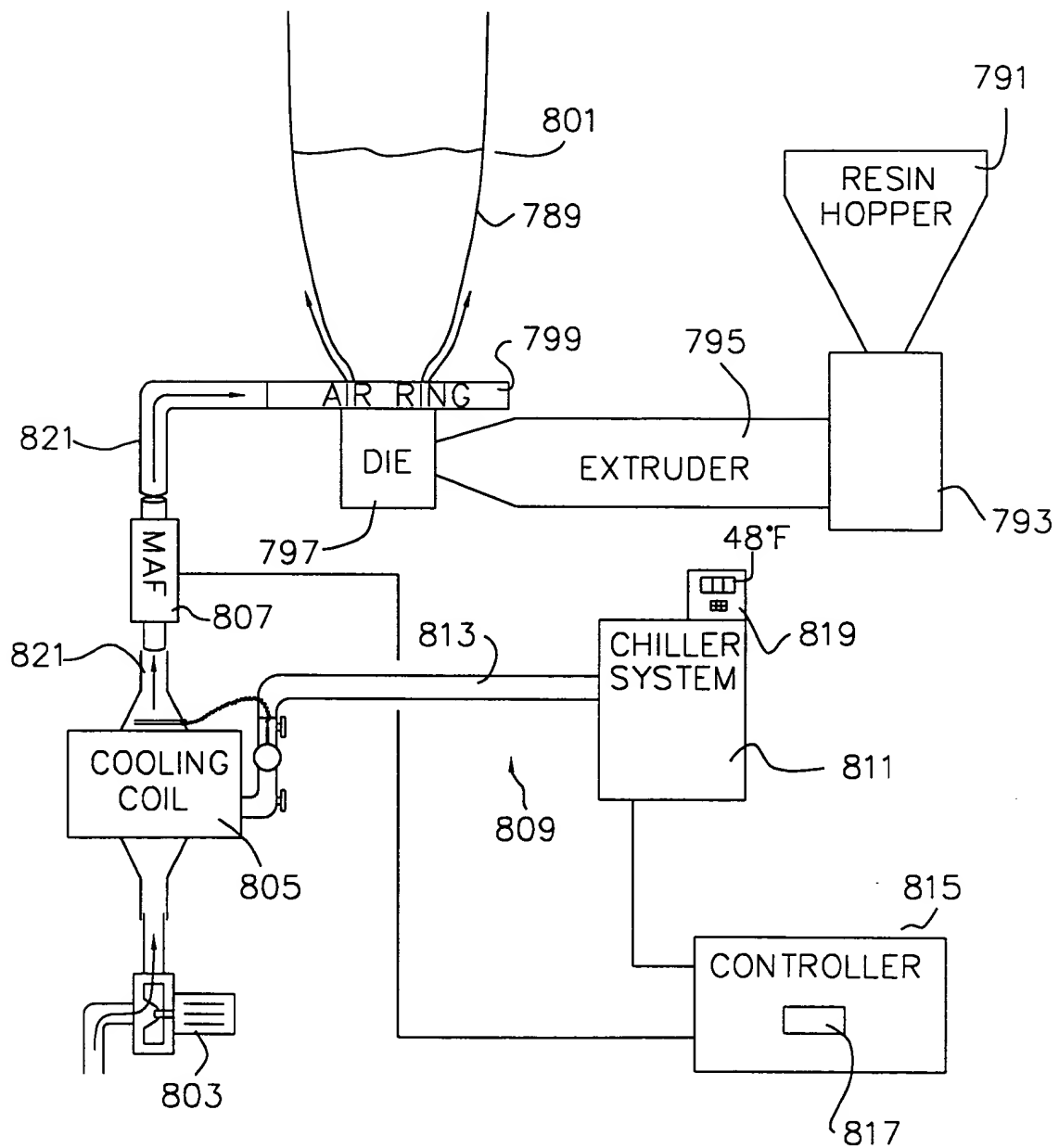


FIGURE 32

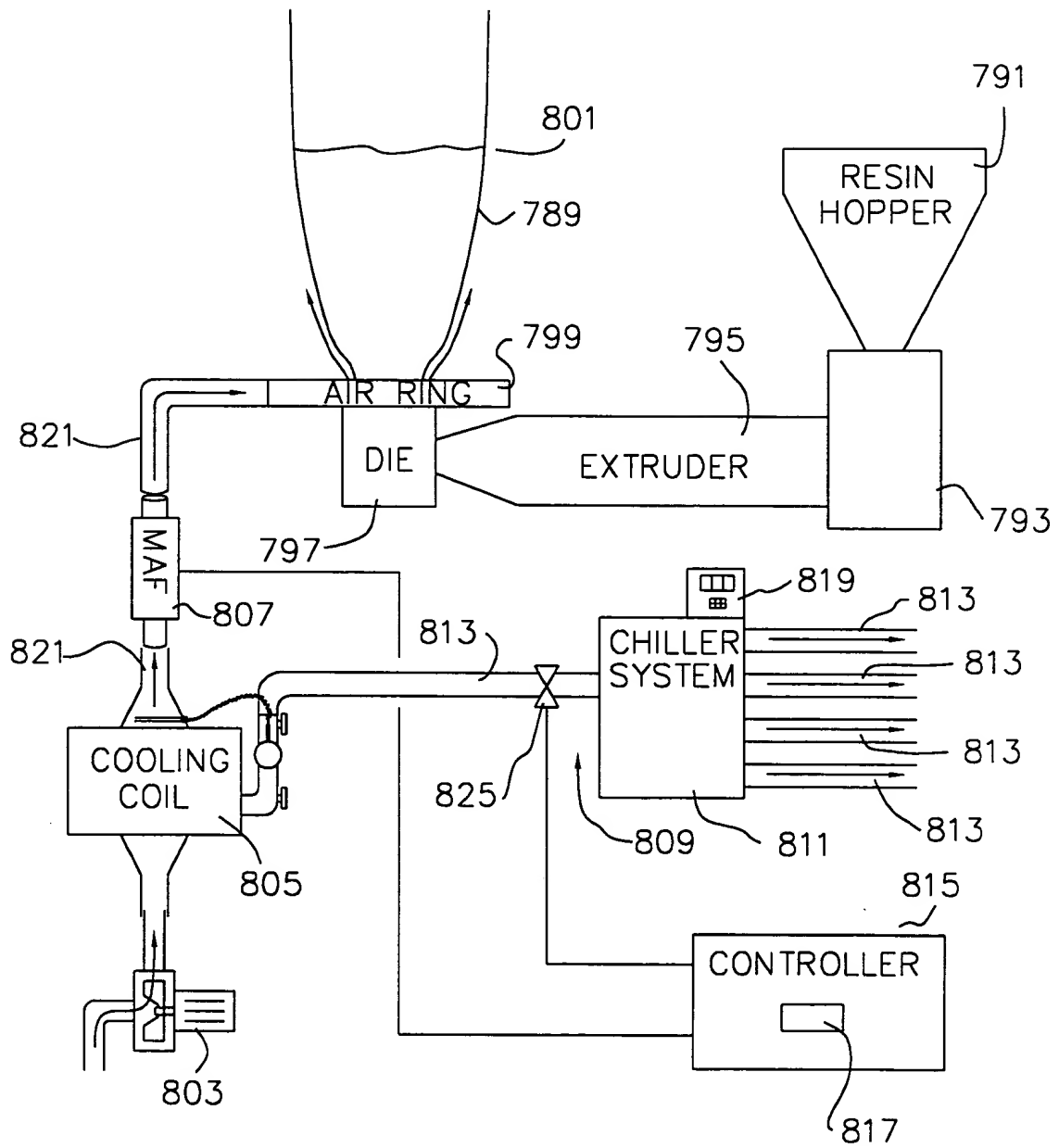


FIGURE 33

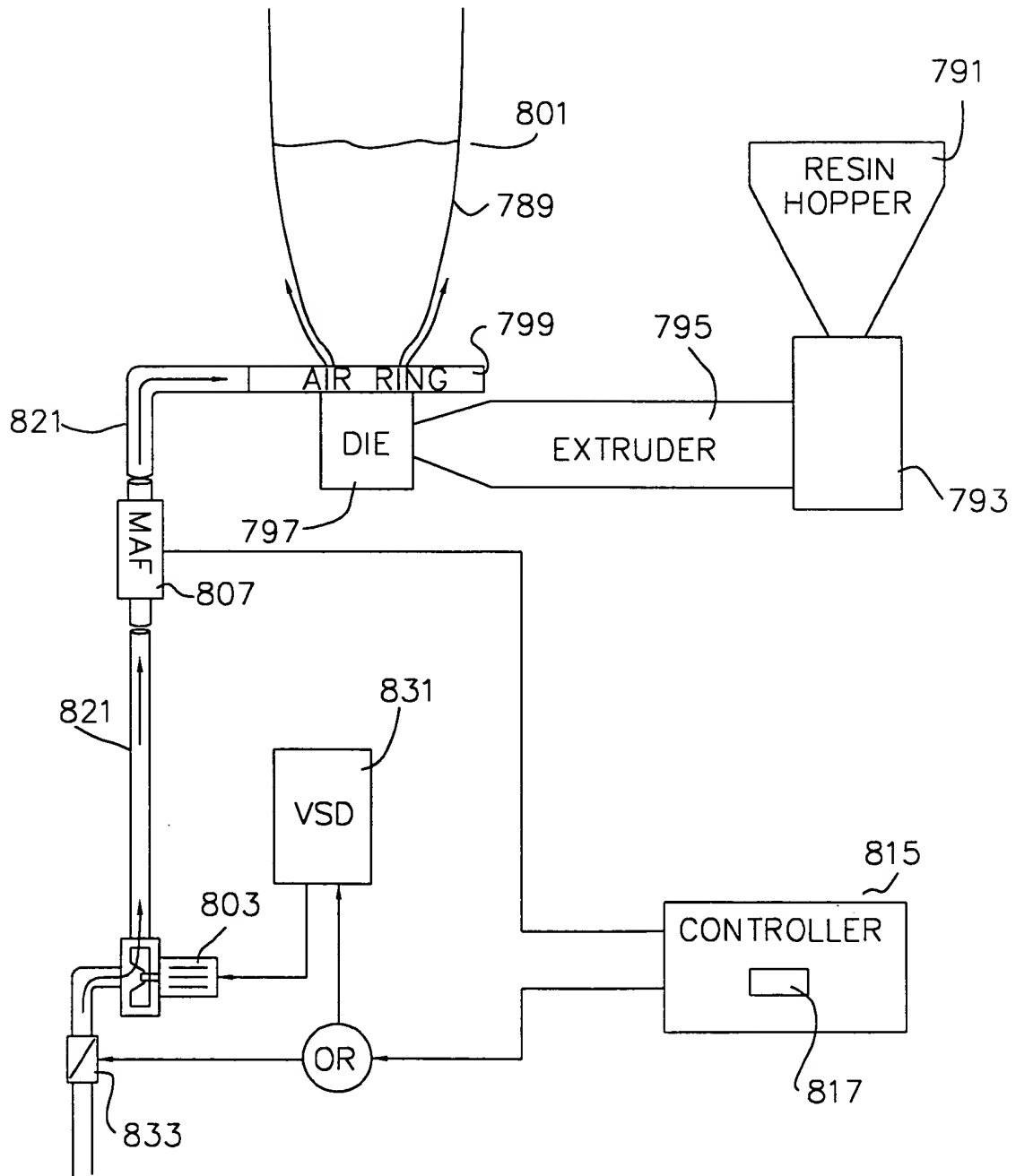


FIGURE 34

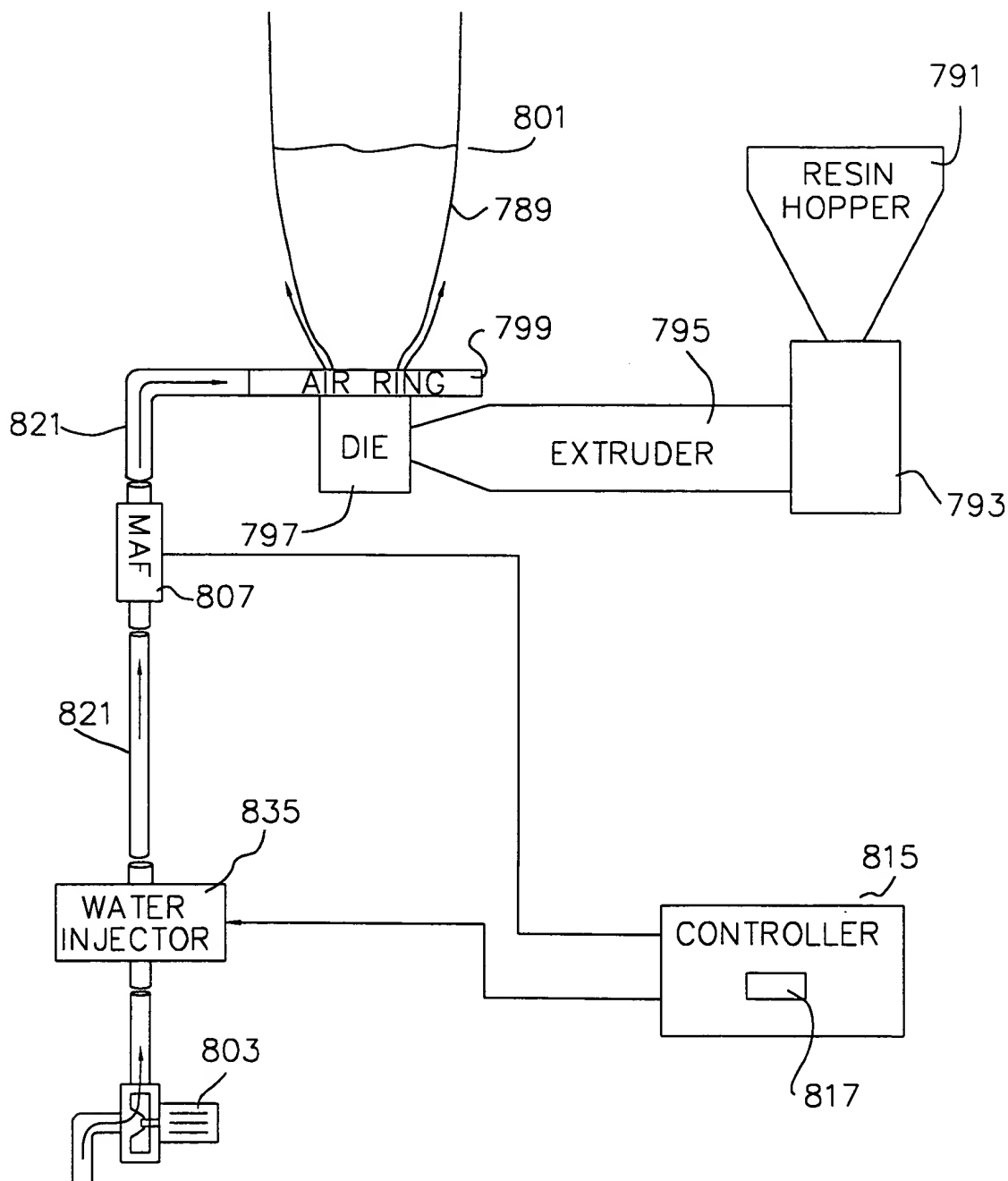


FIGURE 35

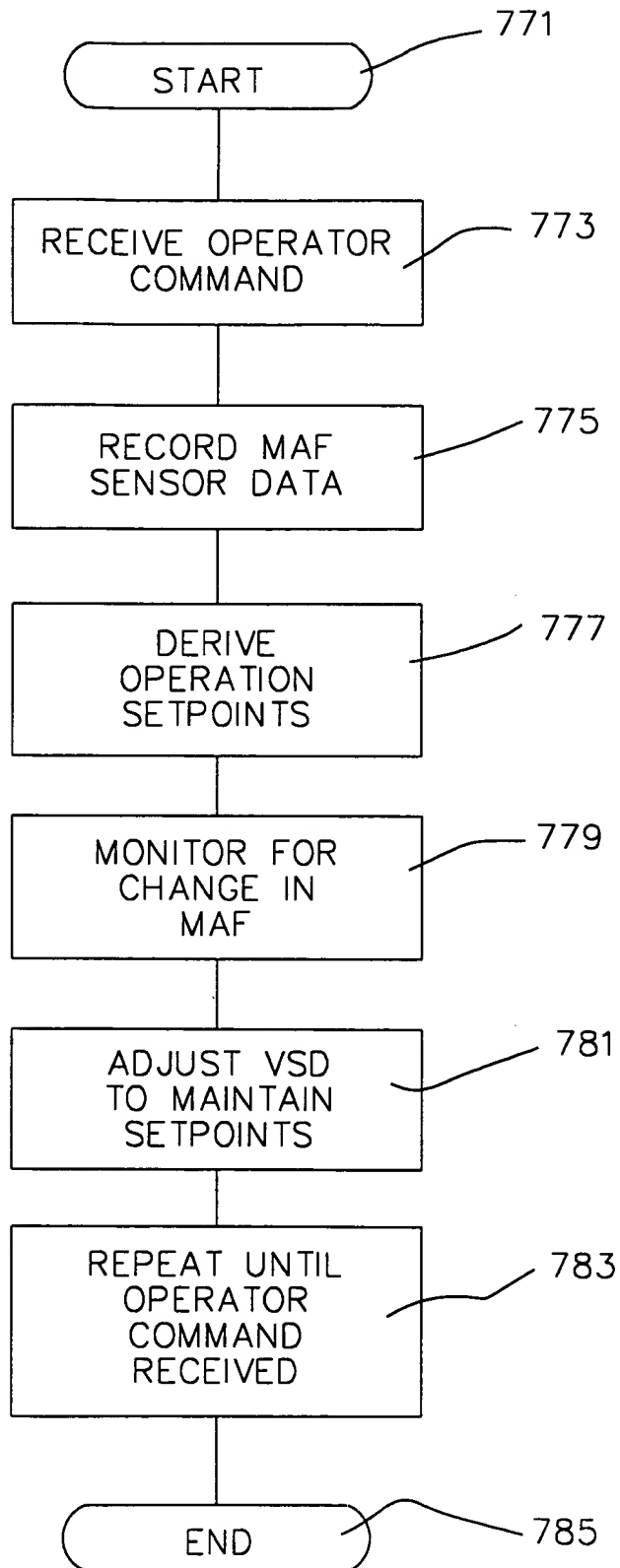


FIGURE 36

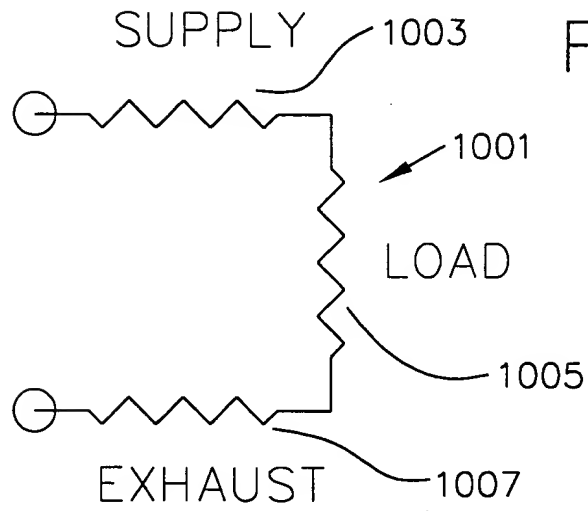


FIGURE 37A
(PRIOR ART)

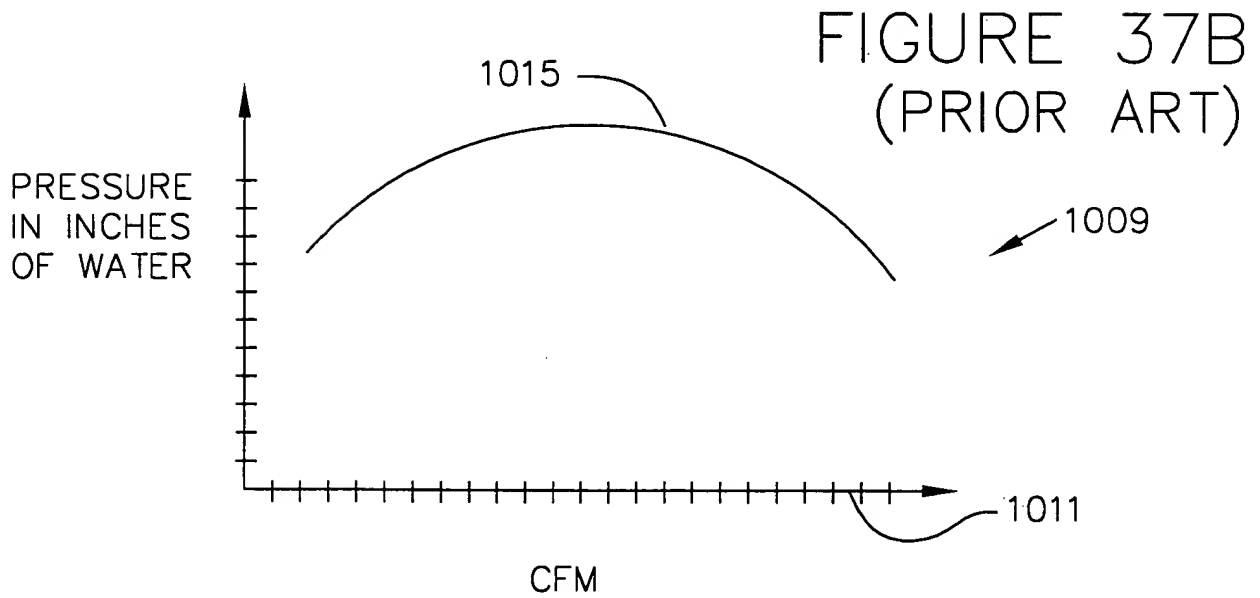


FIGURE 37B
(PRIOR ART)

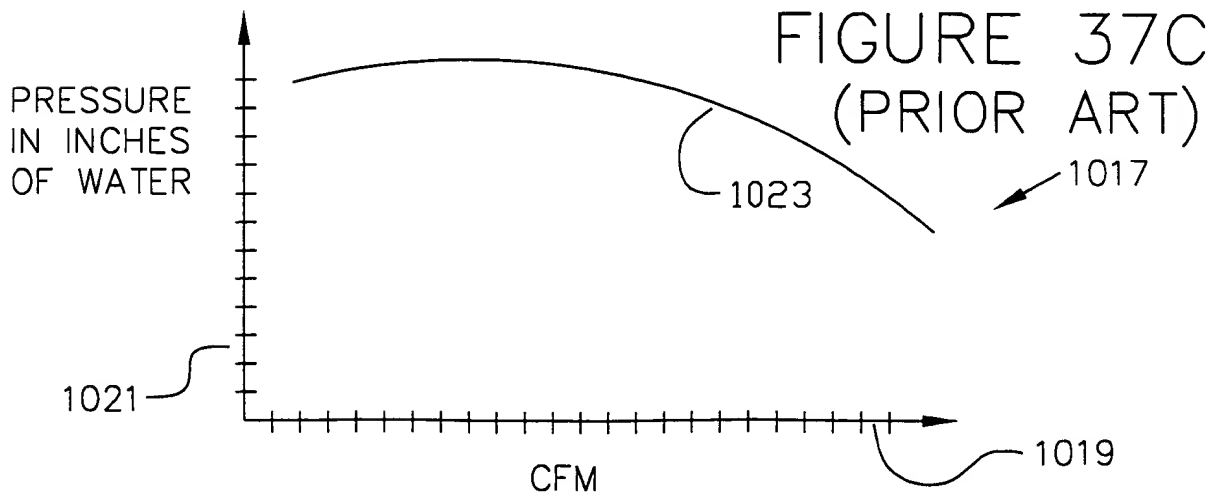


FIGURE 37C
(PRIOR ART)

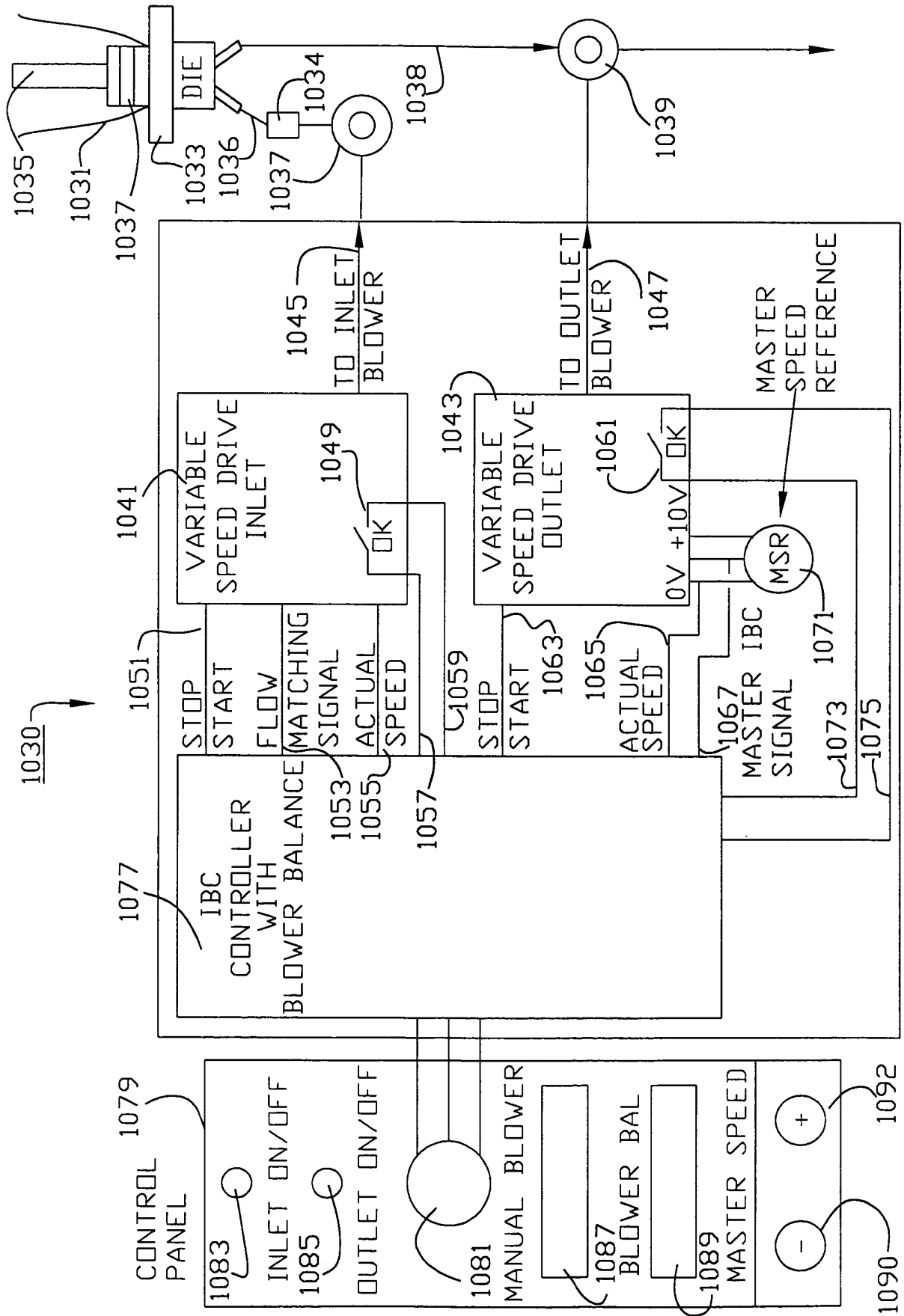


FIGURE 37D

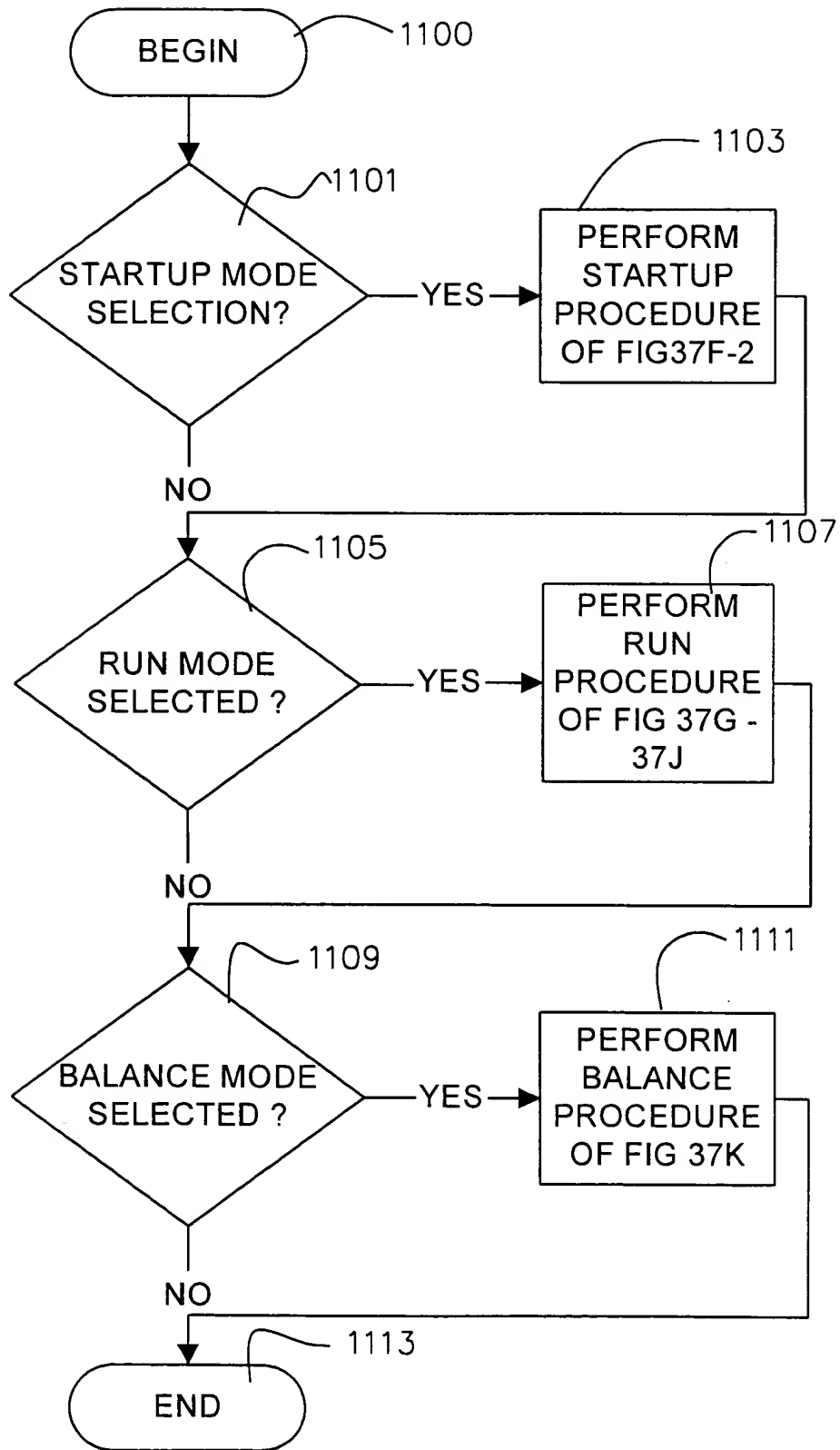


FIGURE 37E

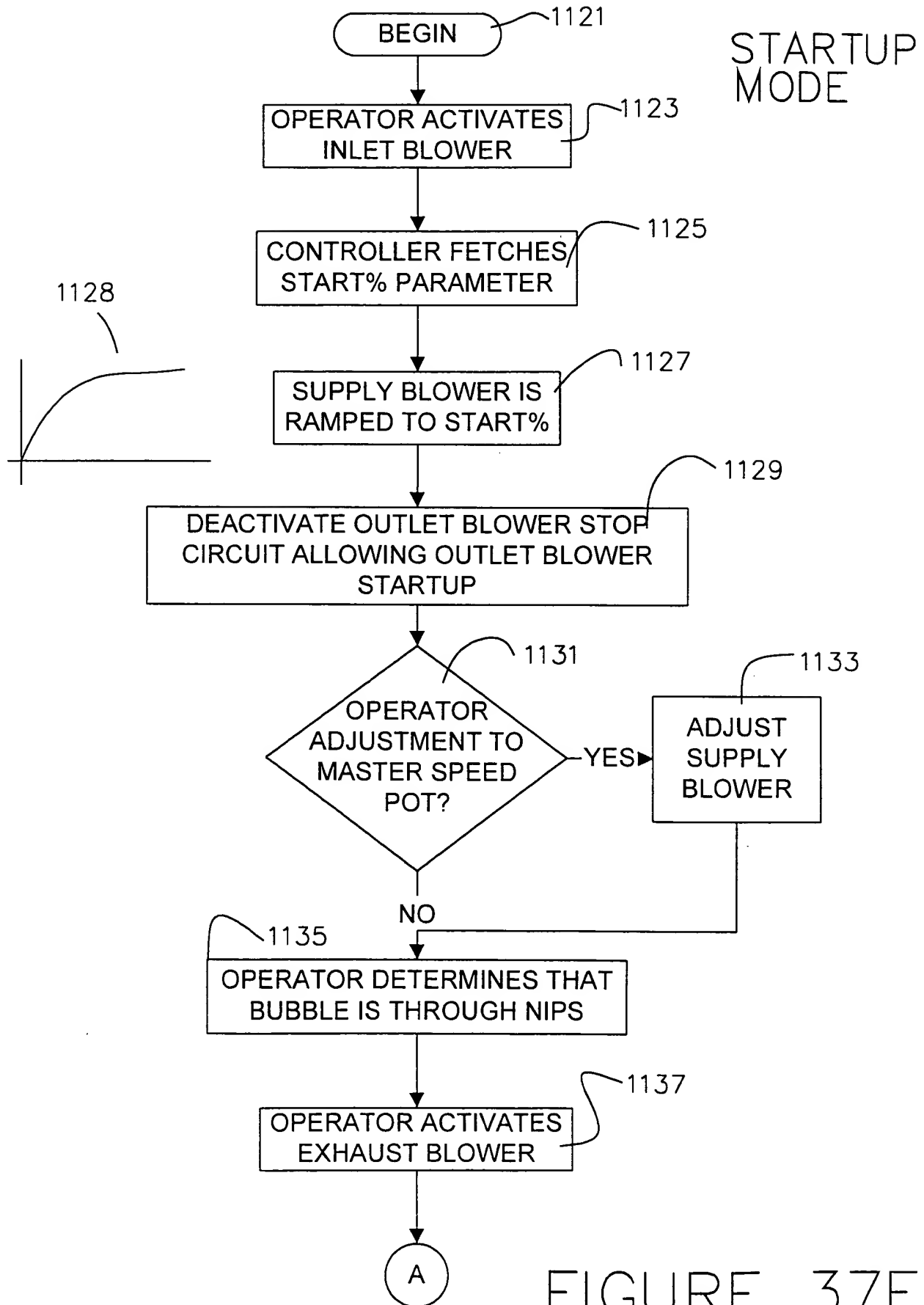


FIGURE 37F1

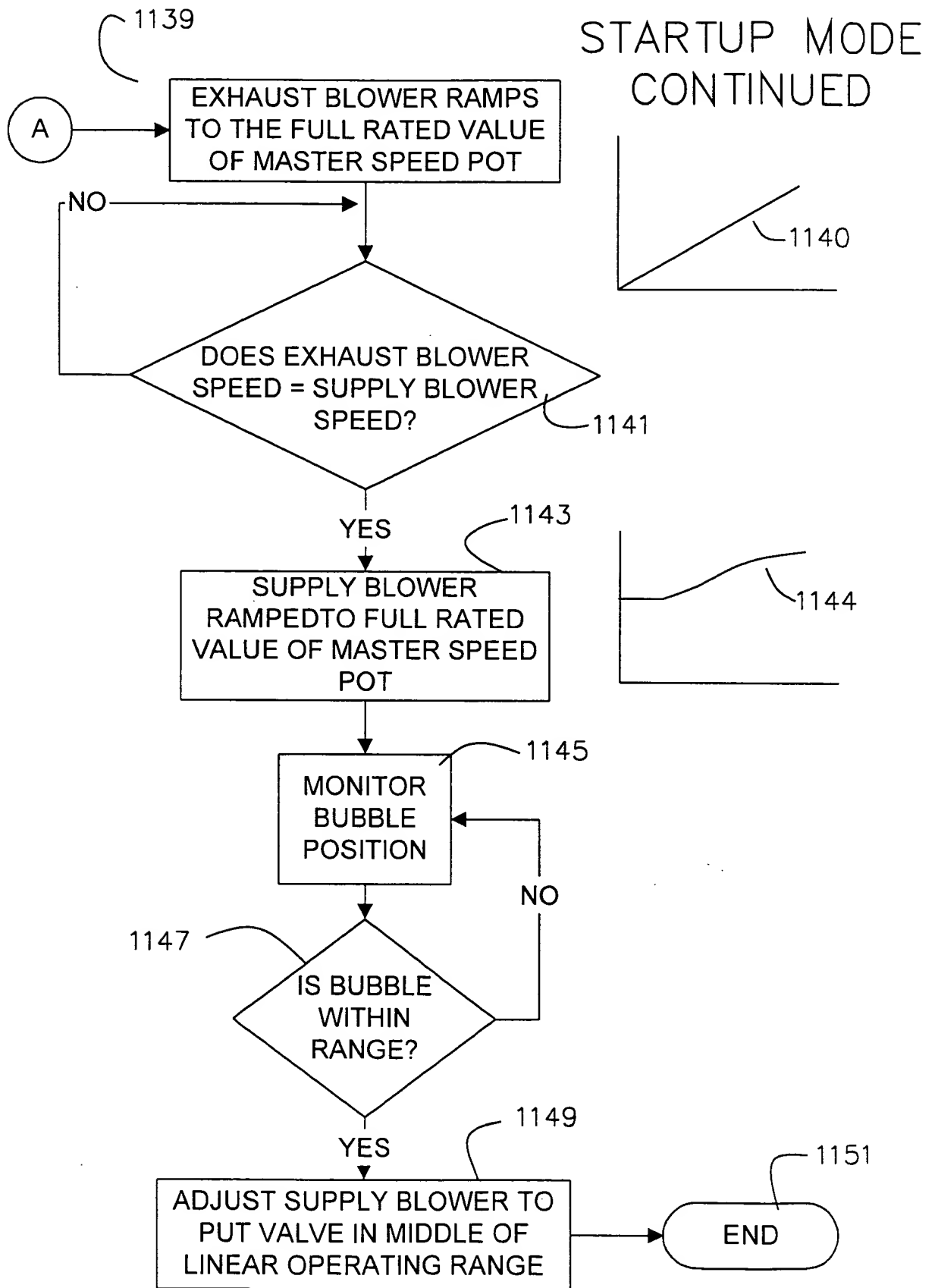


FIGURE 37F2

RUN MODE

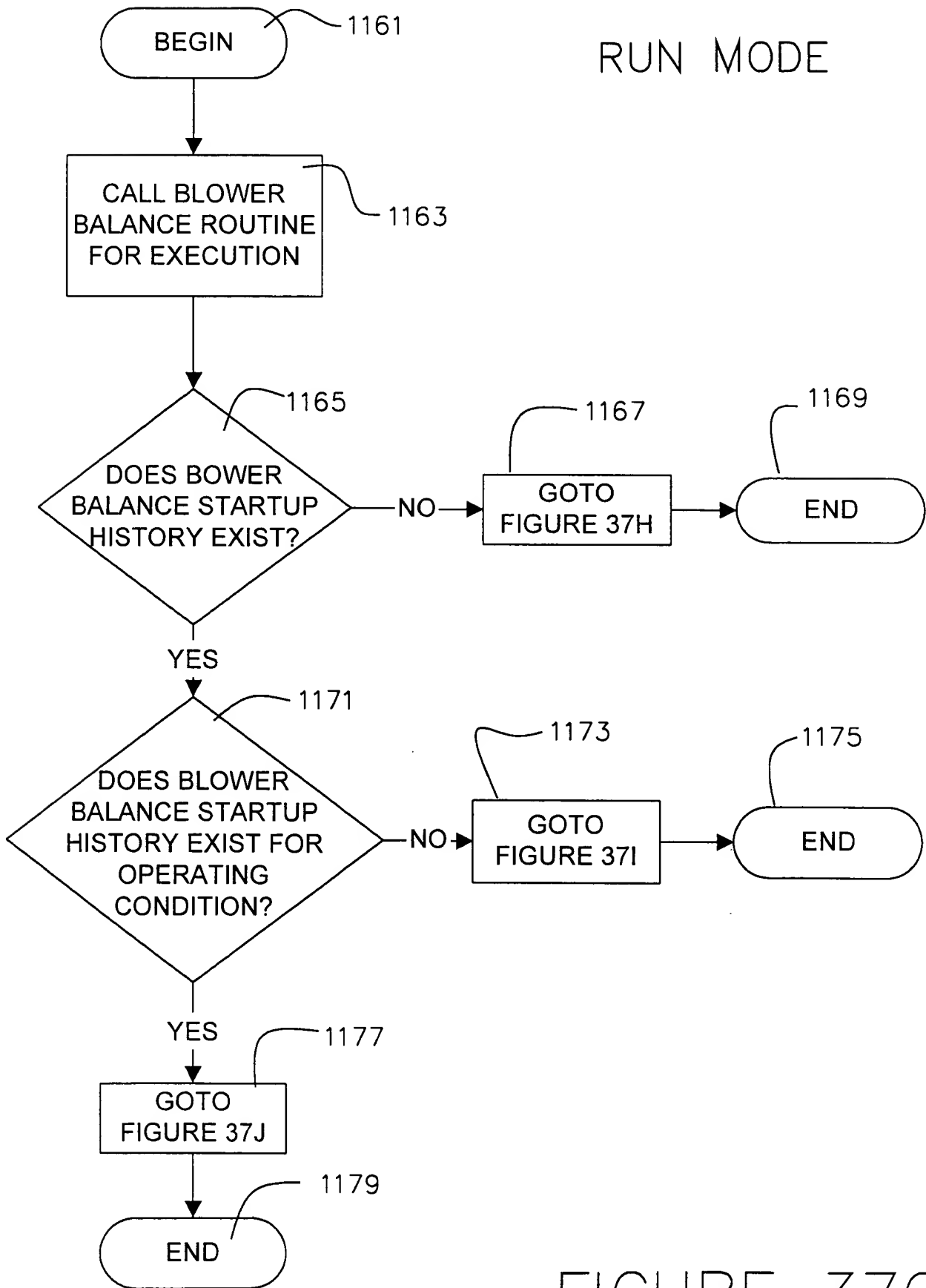


FIGURE 37G

RUN MODE

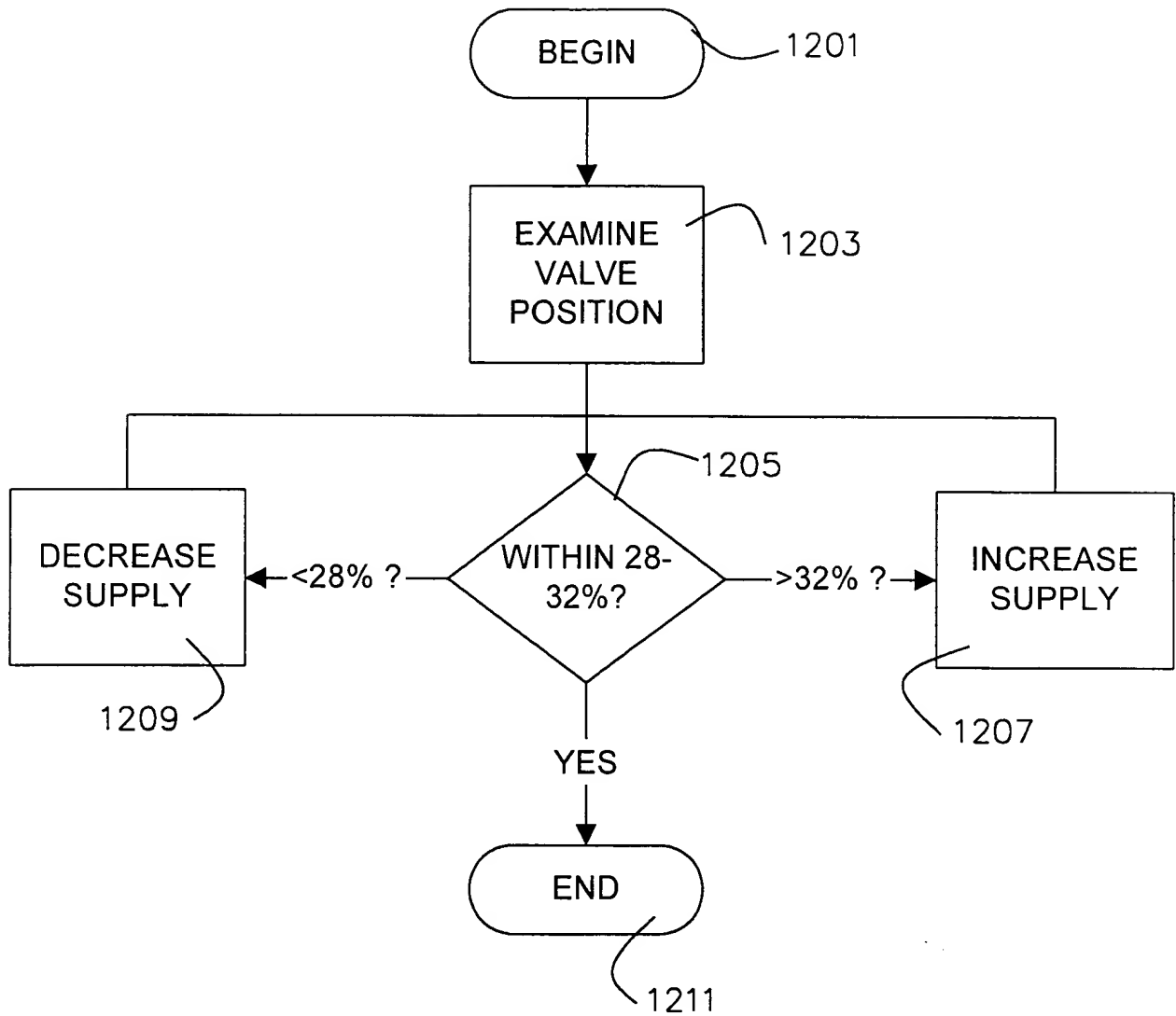


FIGURE 37H

RUN MODE

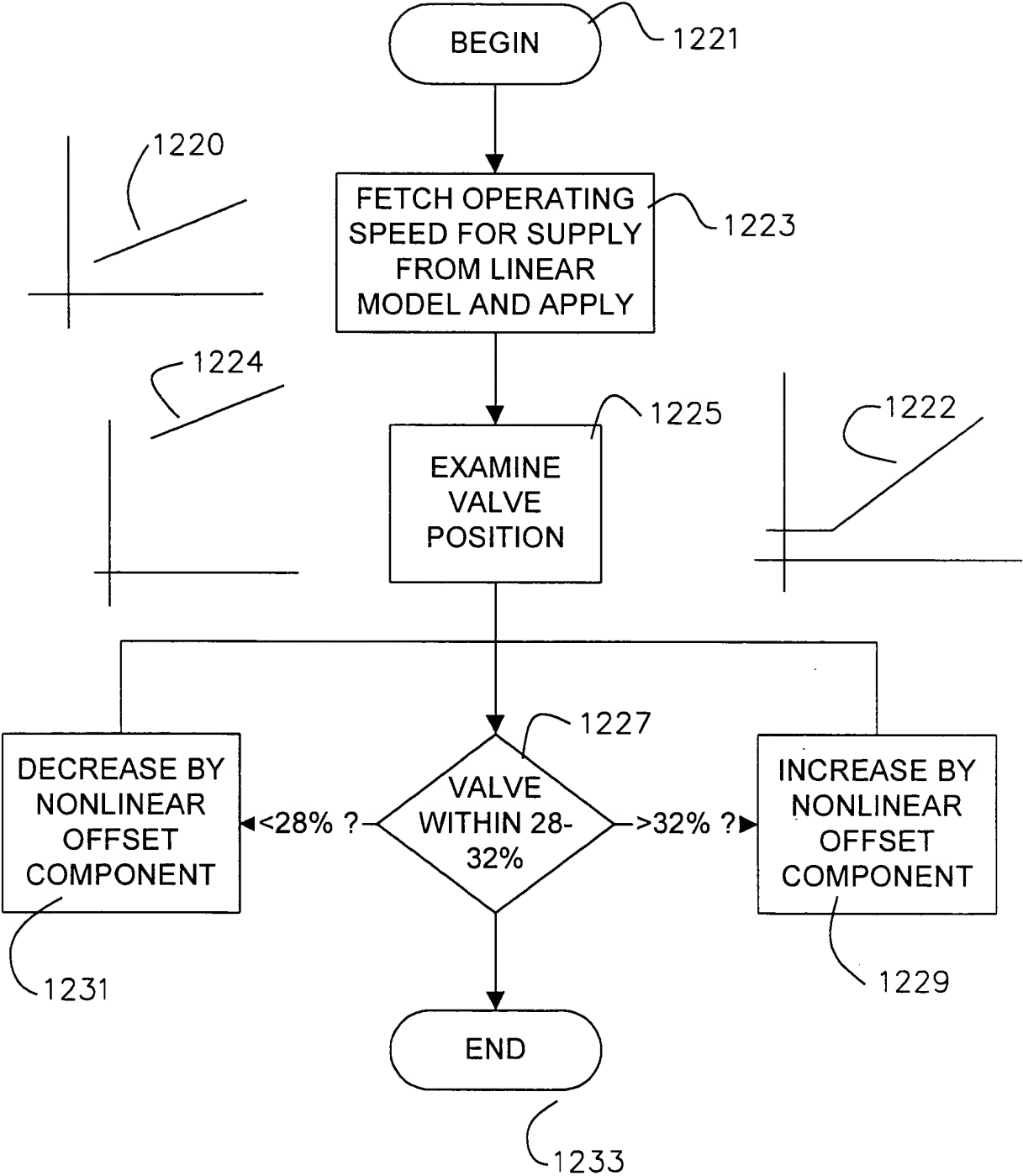


FIGURE 371

RUN MODE

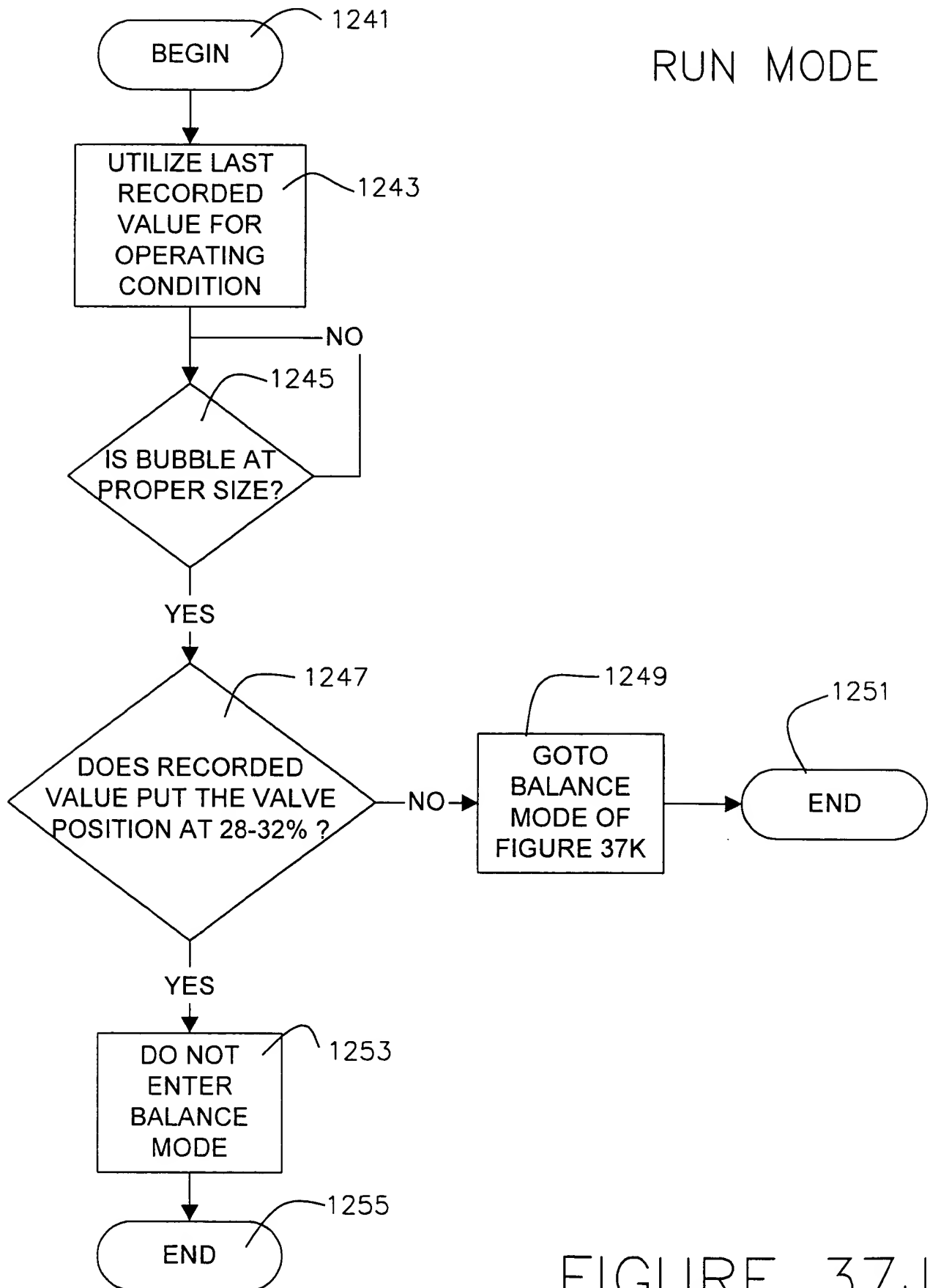
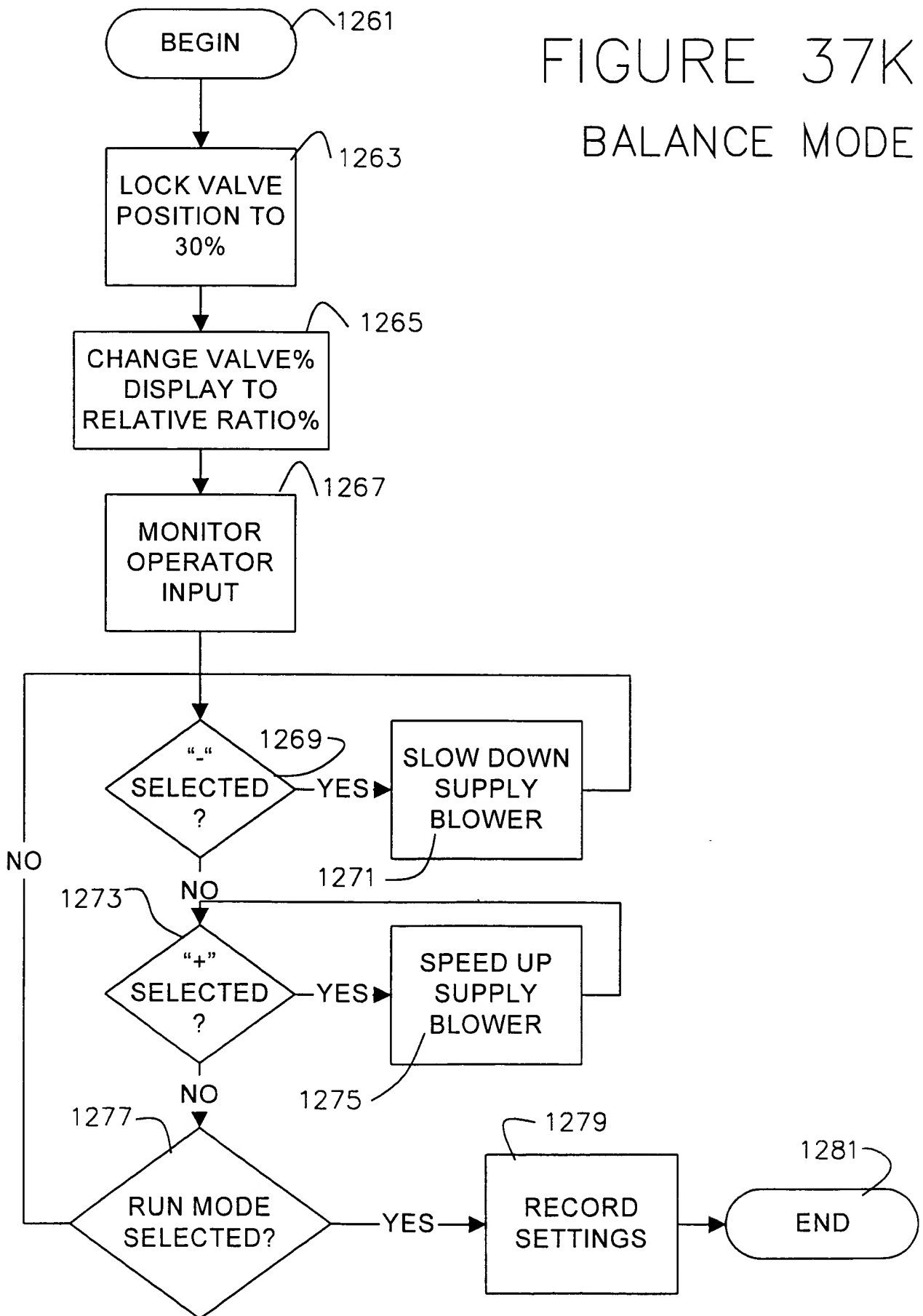


FIGURE 37J

FIGURE 37K
BALANCE MODE



1301	1303	1305
MASTER SPEED POT SETTING	SUPPLY SPEED	REFERENCE VOLTS
A% B% ° ° ° ° Z%	AC AG ° ° ° ° AM	BD BF ° ° ° ° BX

FIGURE 37L

BUBBLE BREAK DETECTOR

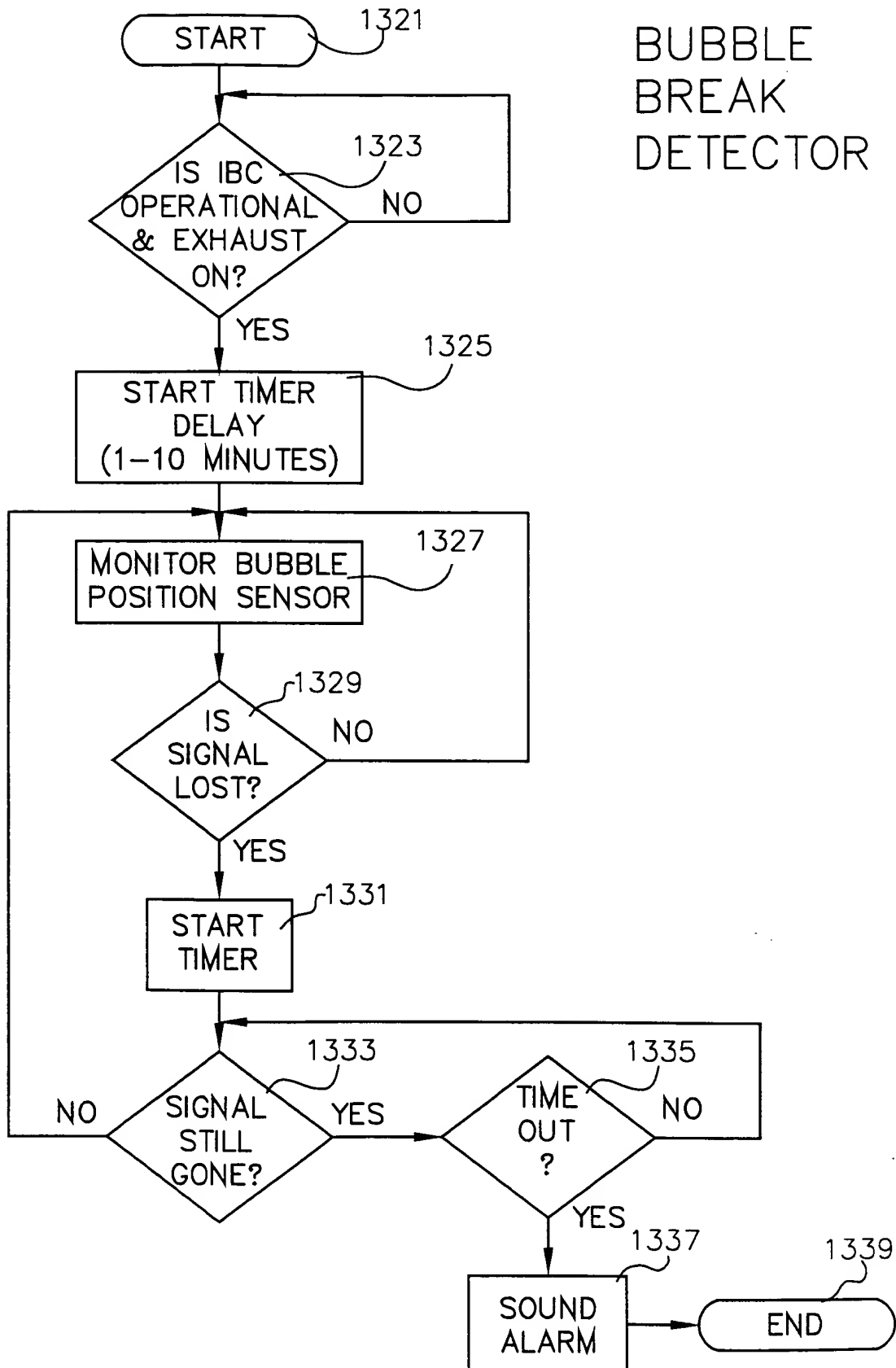


FIGURE 37M

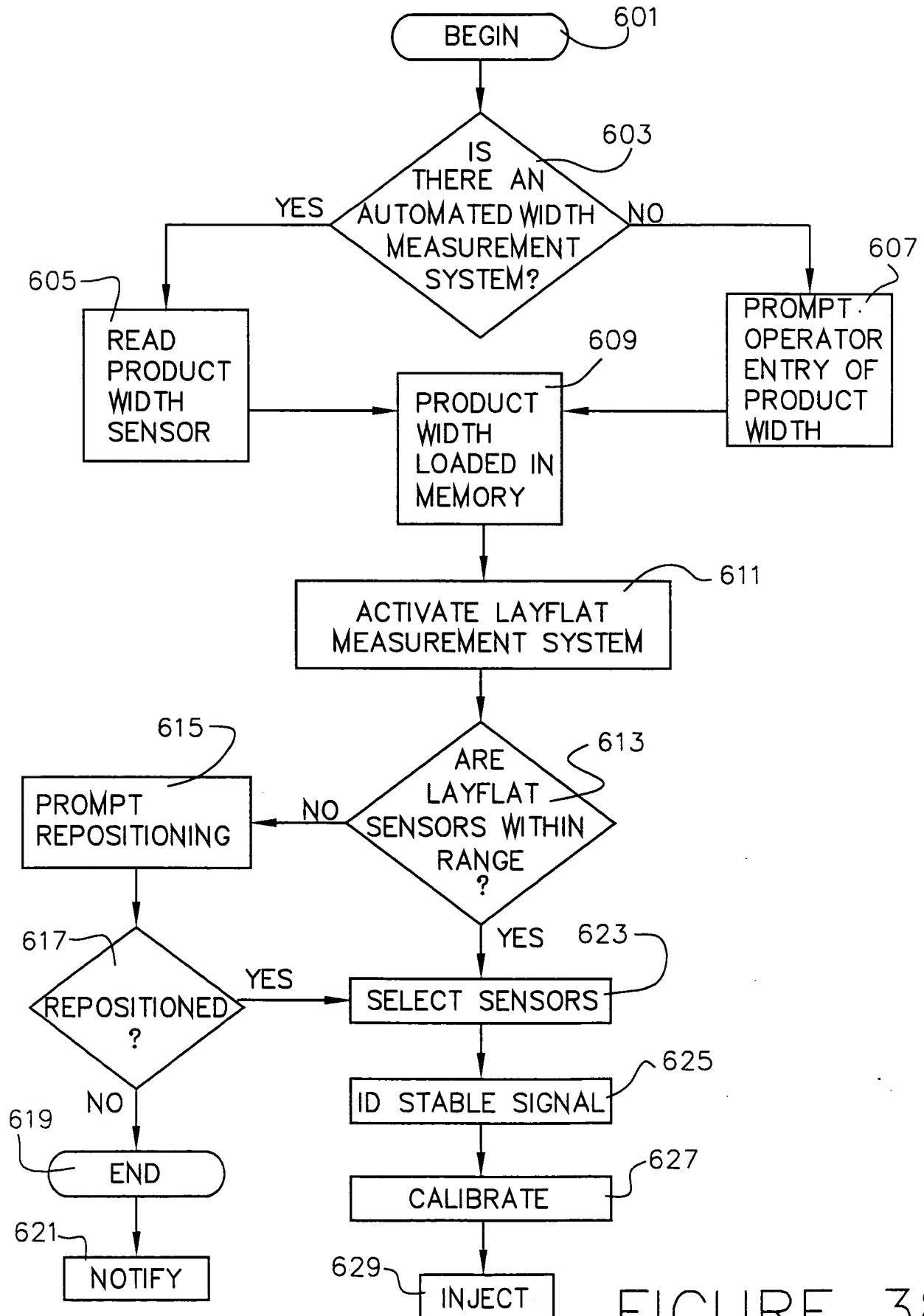


FIGURE 38

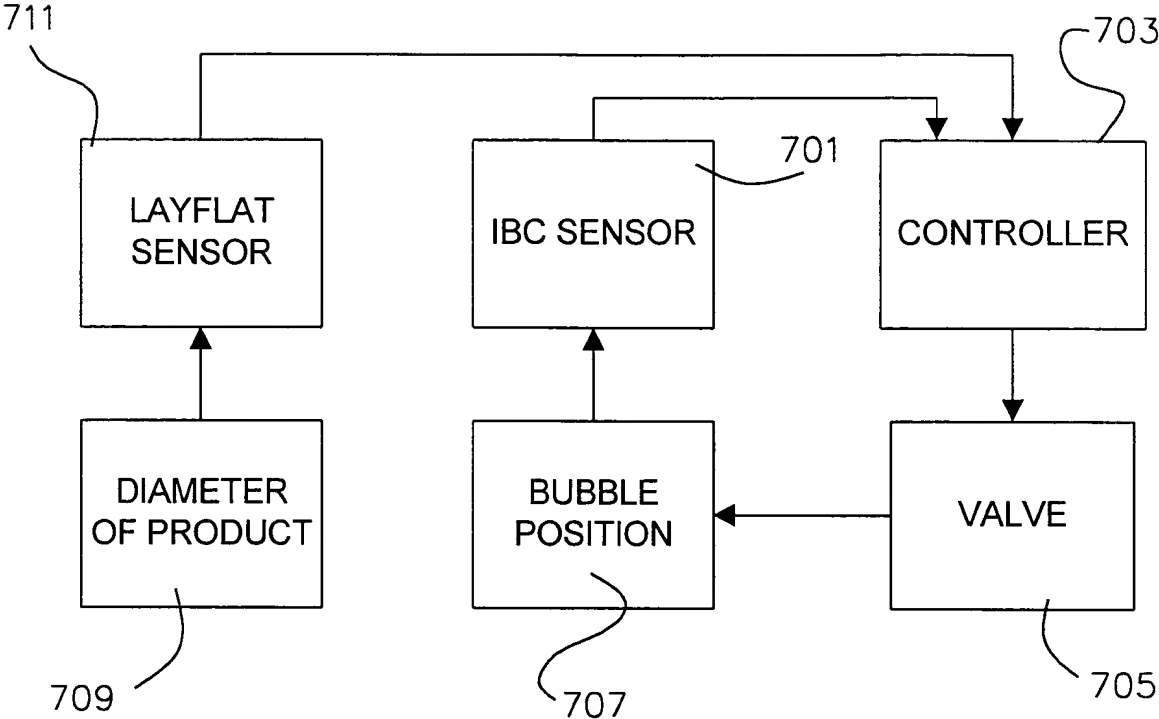


FIGURE 39

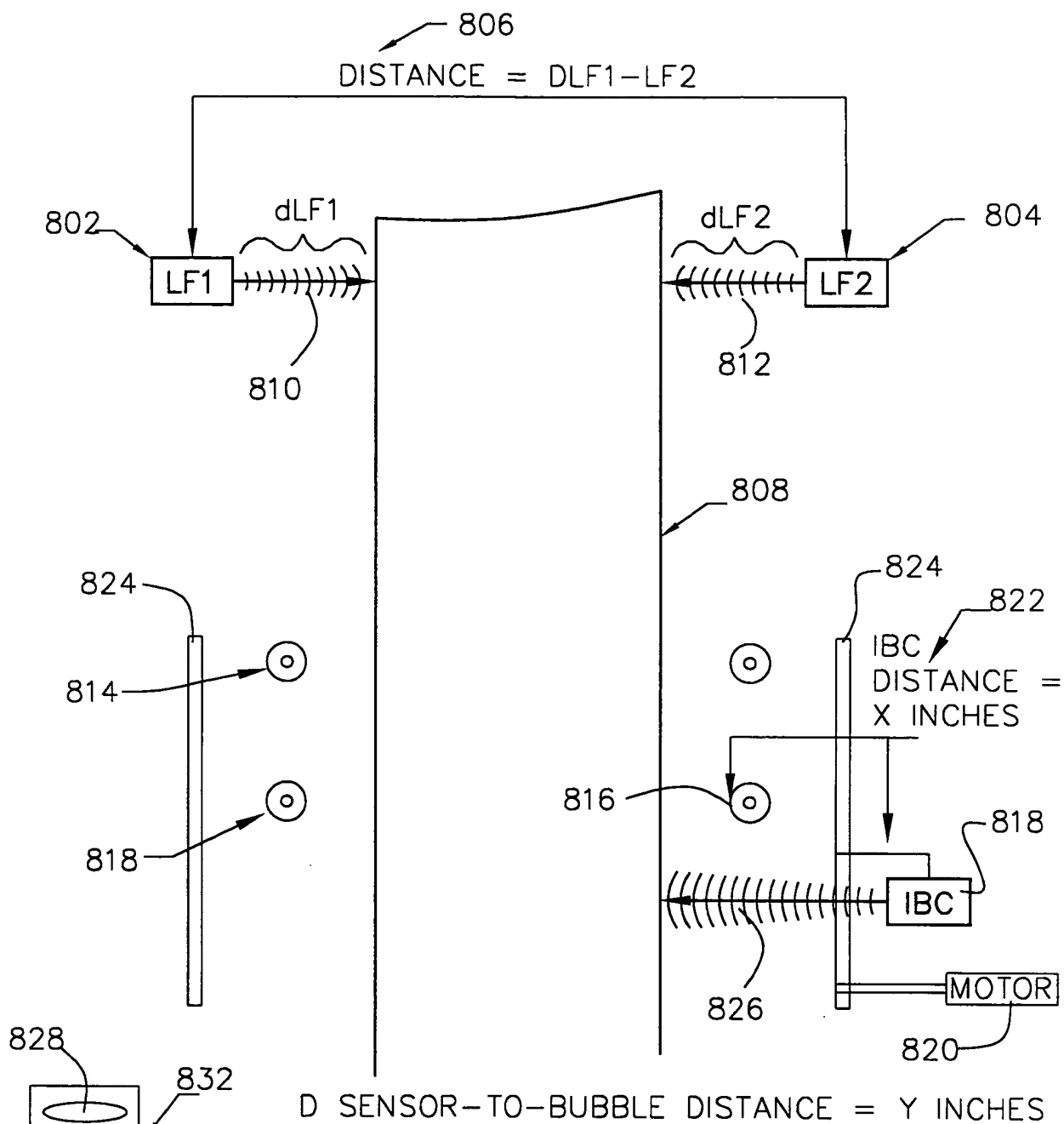


FIGURE 40

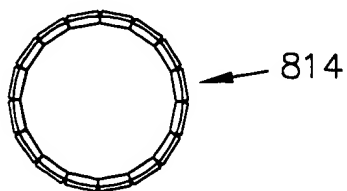
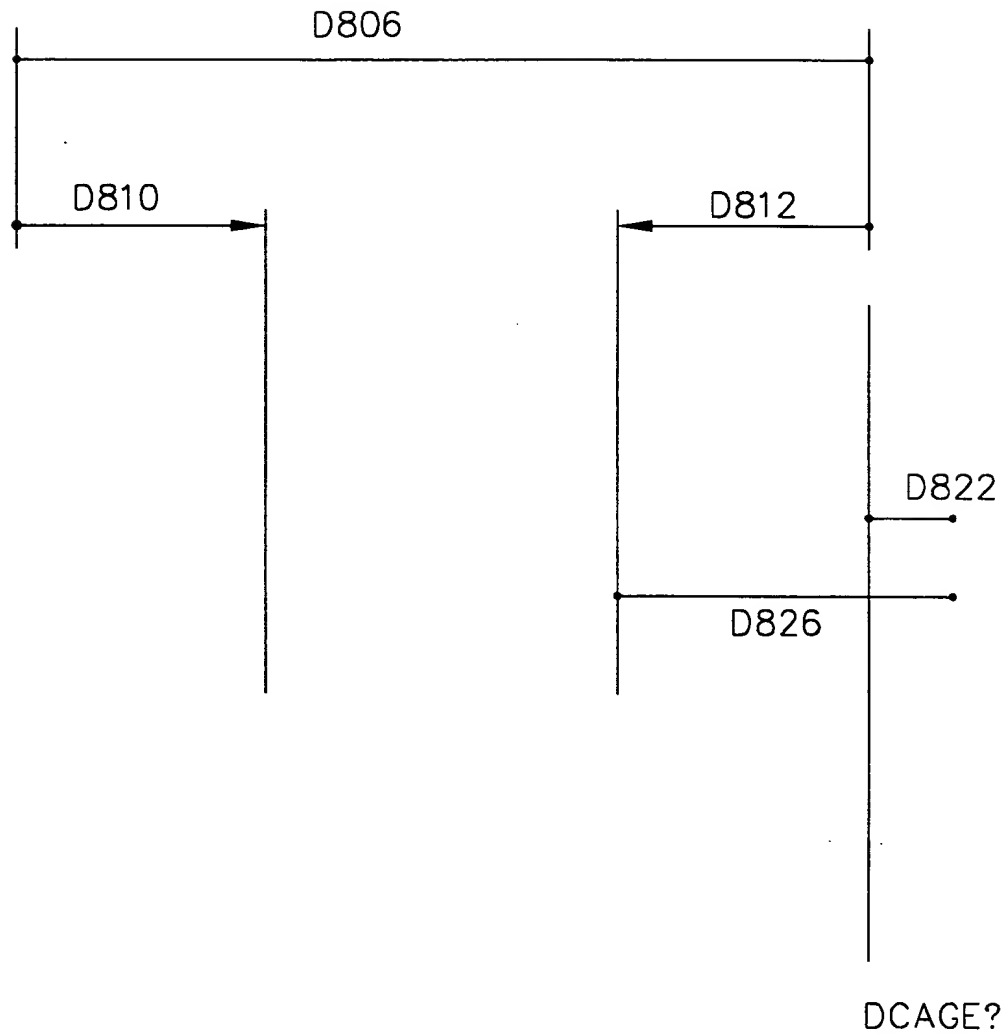


FIGURE 41

Replacement Sheet



$$\begin{aligned} \text{DCAGE} &= (\text{D806} - \text{D810} - \text{D812}) \\ &\quad + (\text{D826} - \text{D822}) \end{aligned}$$

FIGURE 42

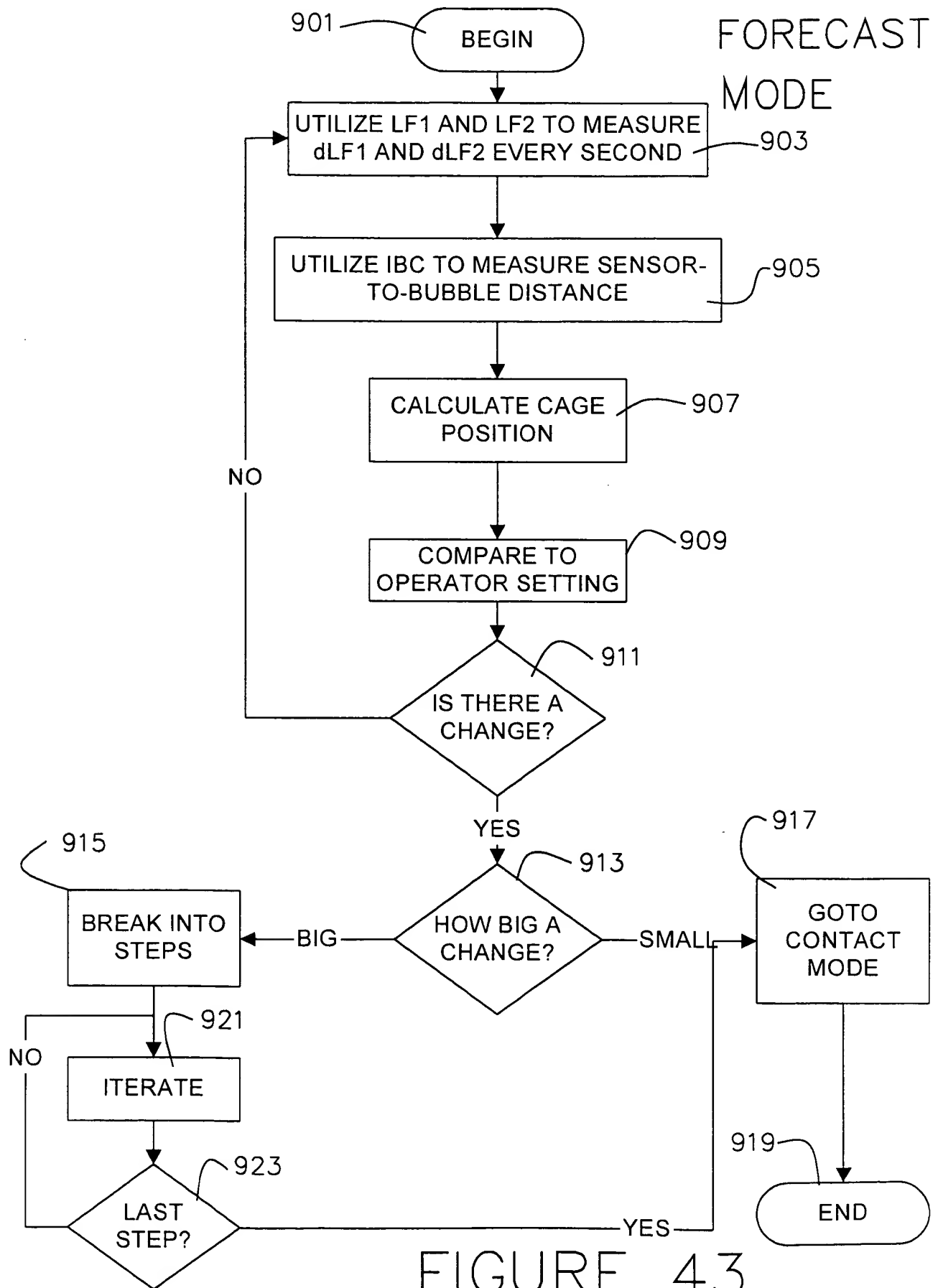


FIGURE 43

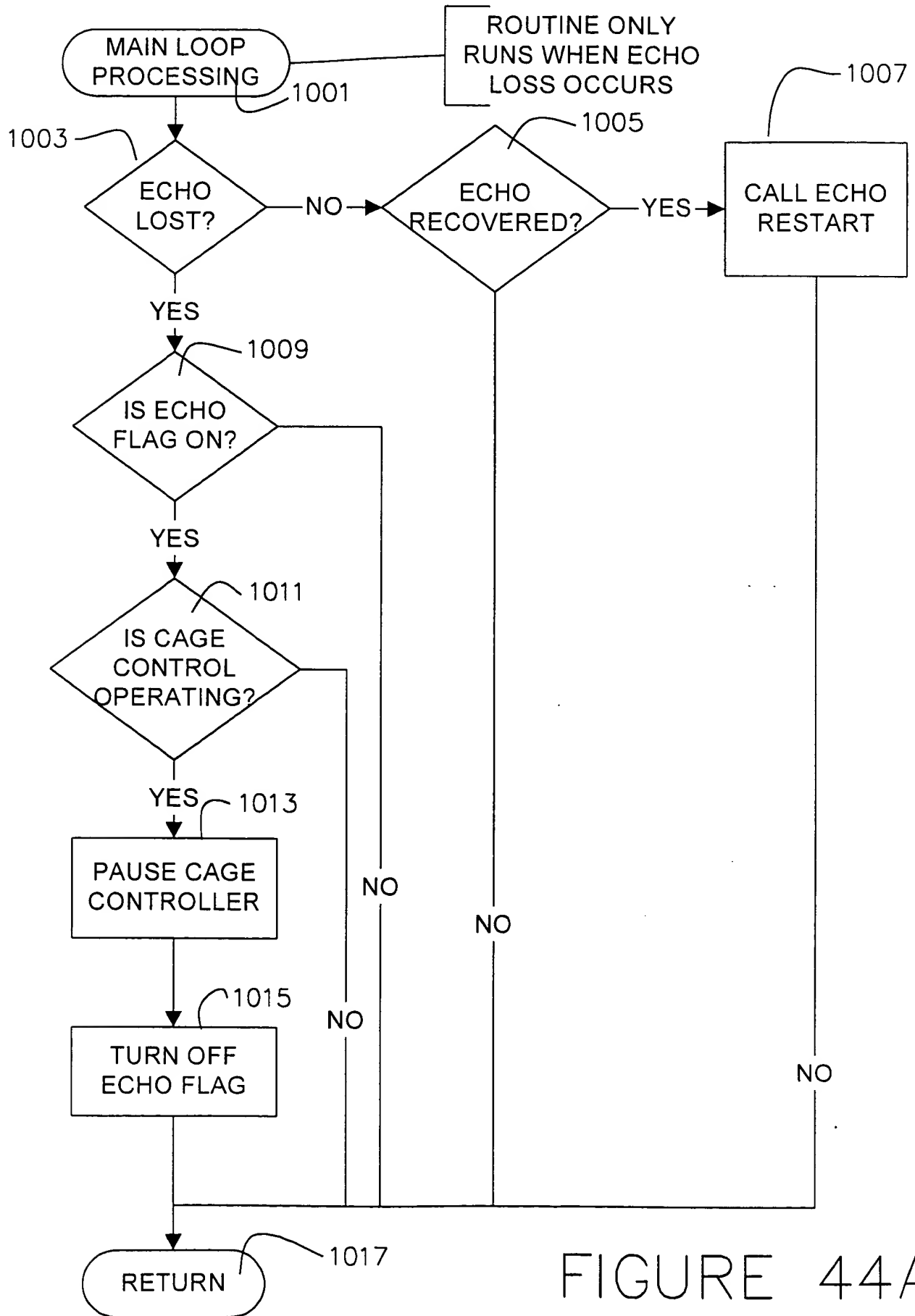


FIGURE 44A

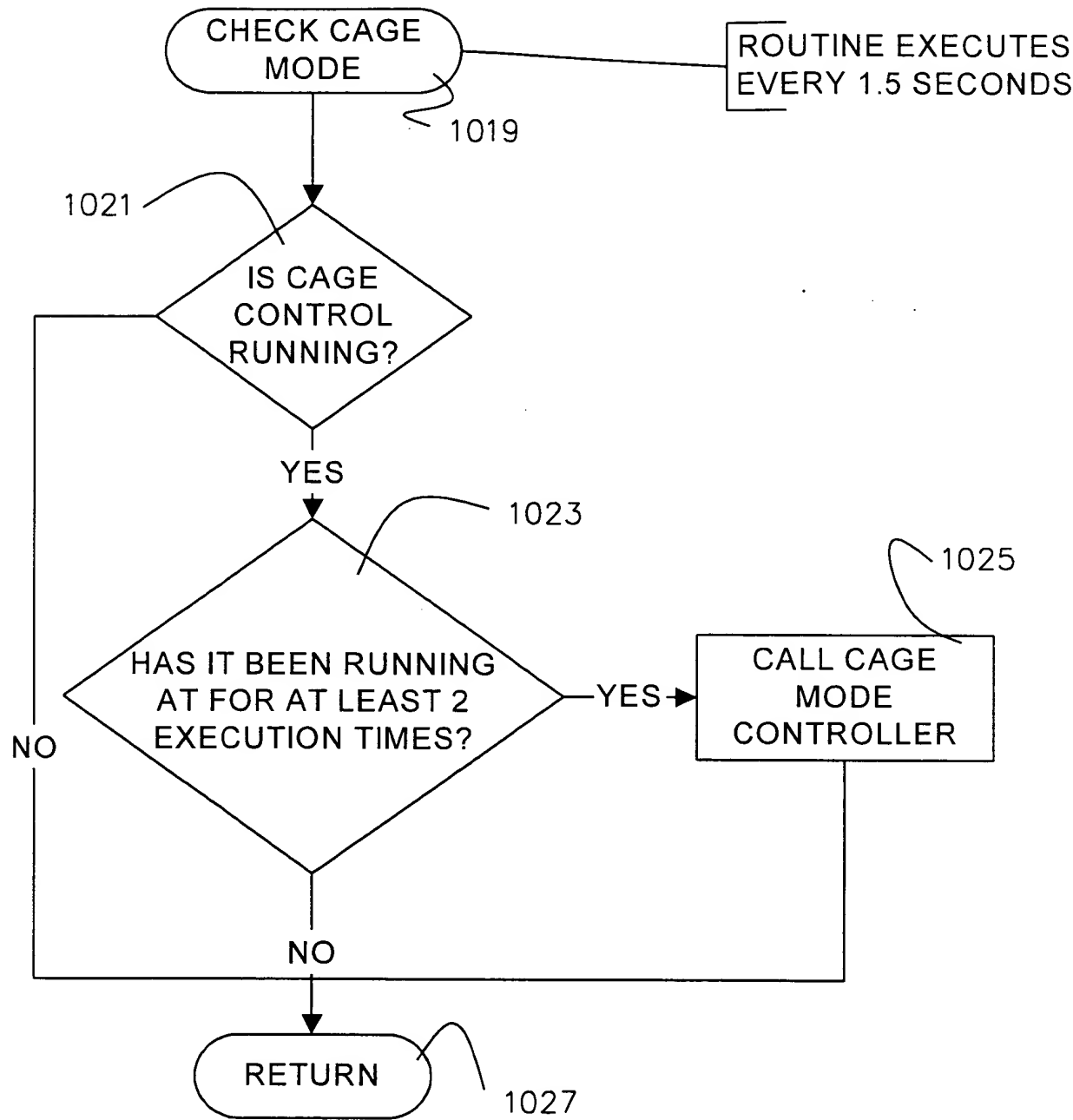
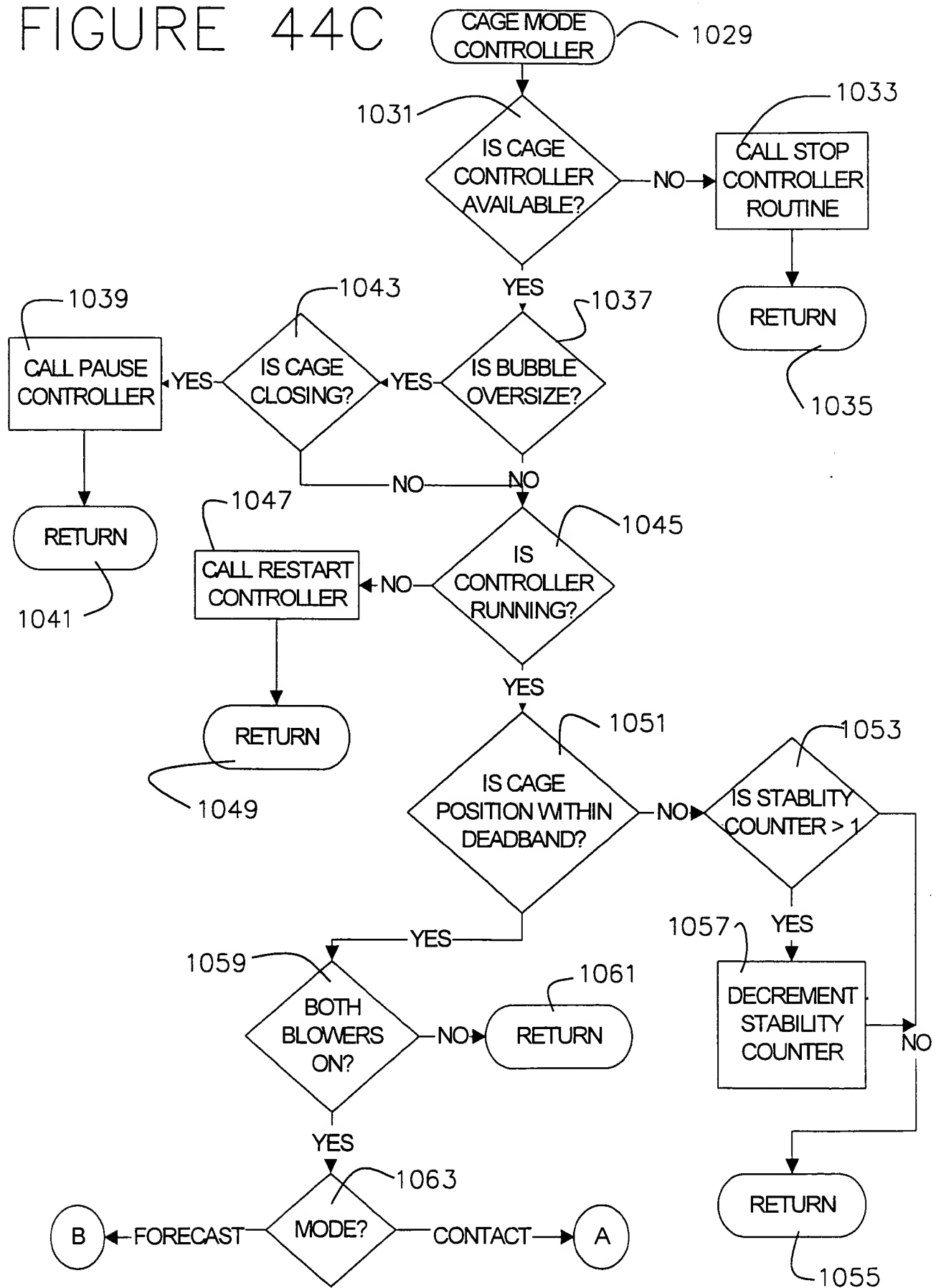


FIGURE 44B

FIGURE 44C



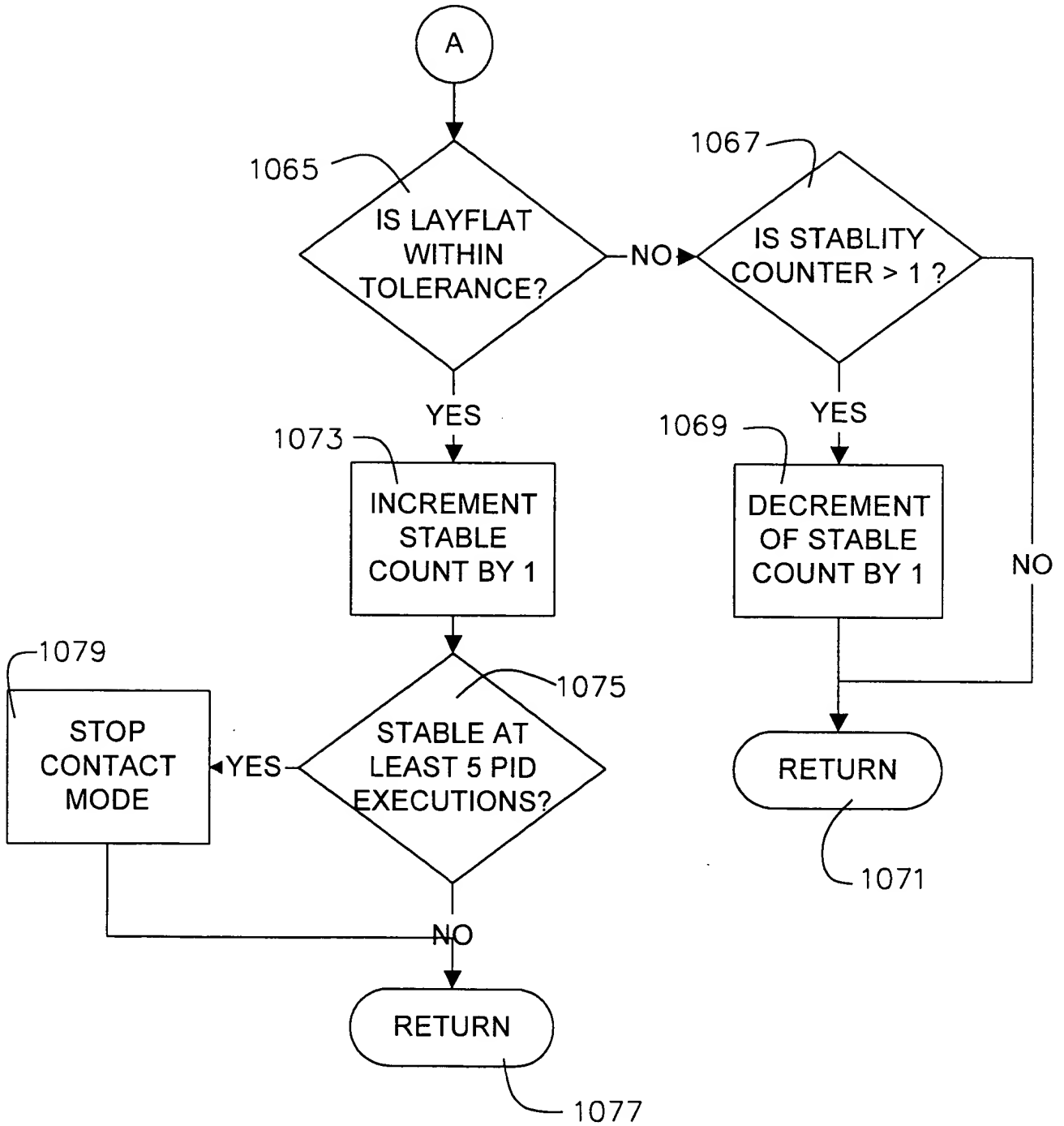
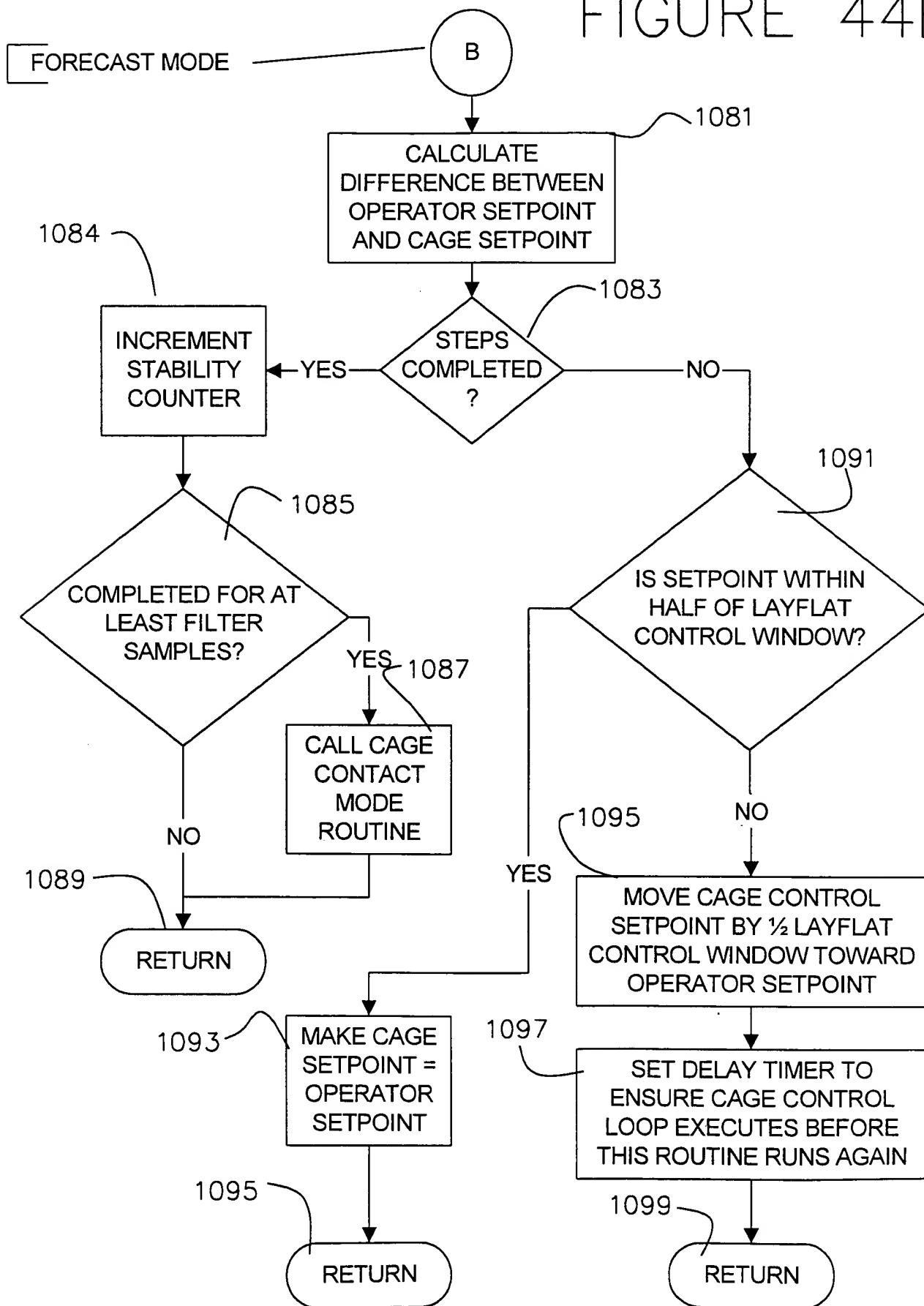
CONTACT
MODE

FIGURE 44D

FIGURE 44E



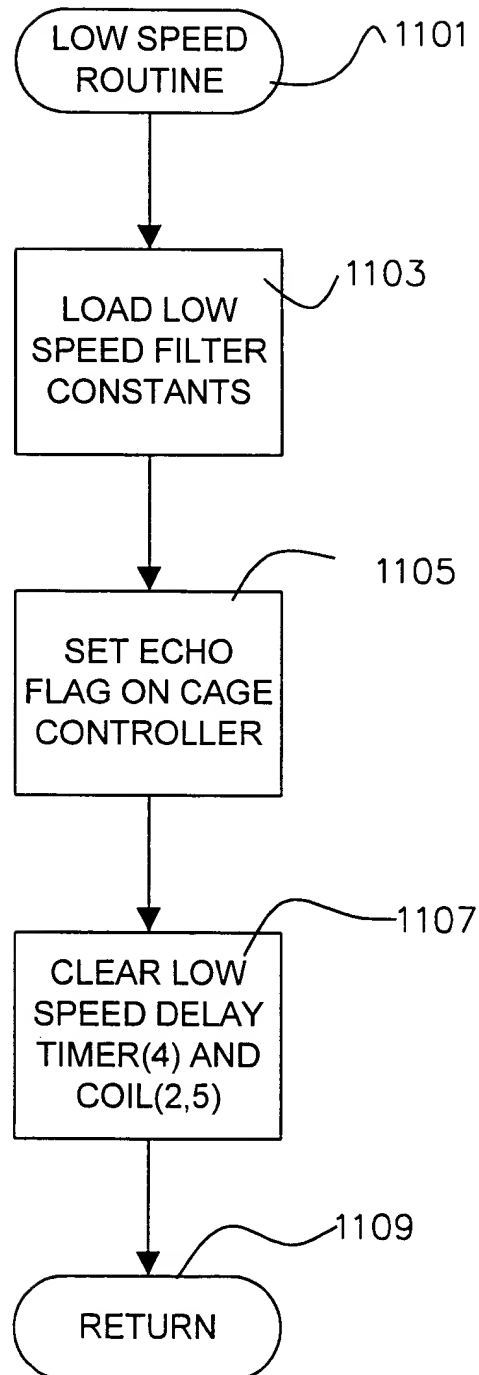


FIGURE 44F

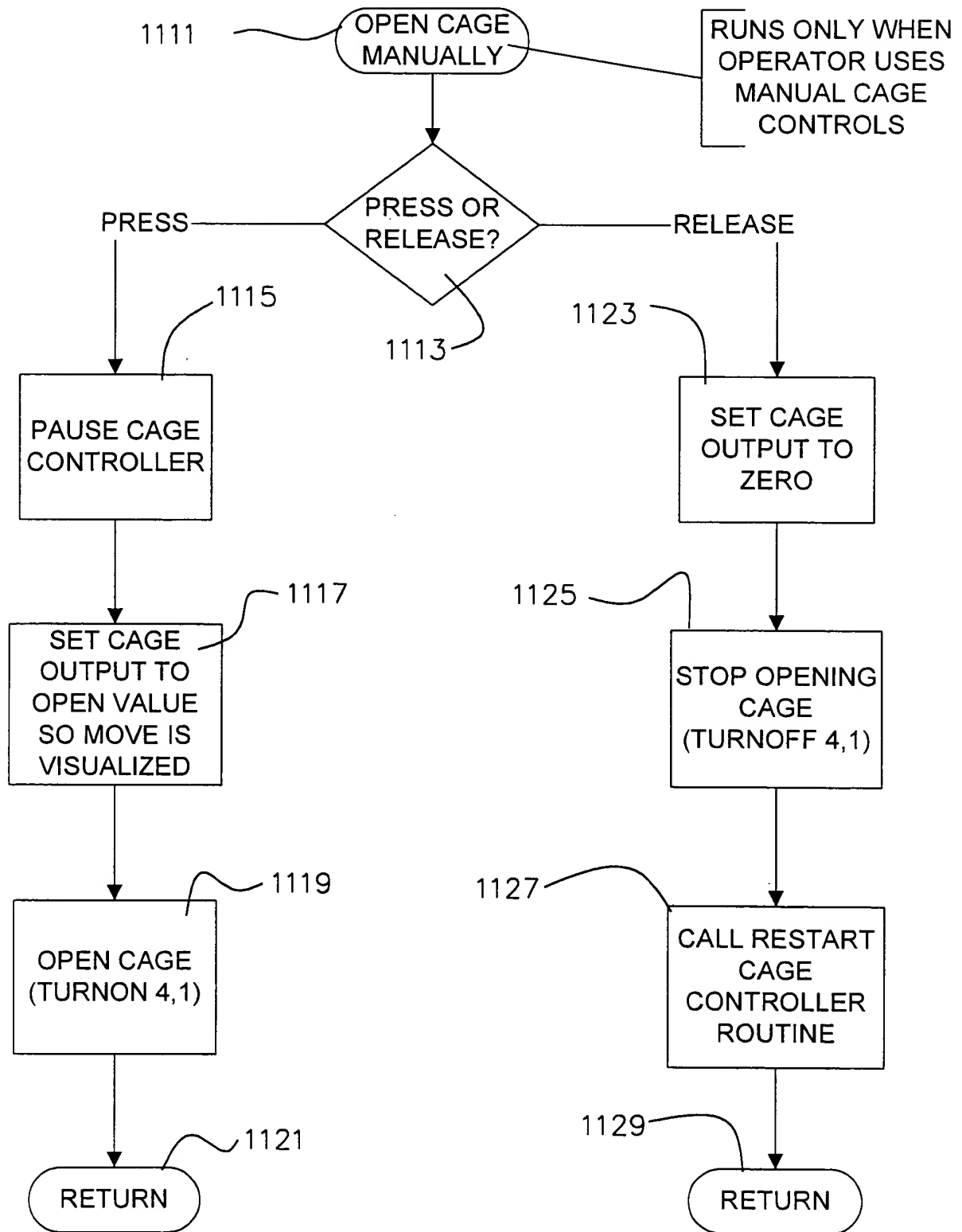


FIGURE 44G

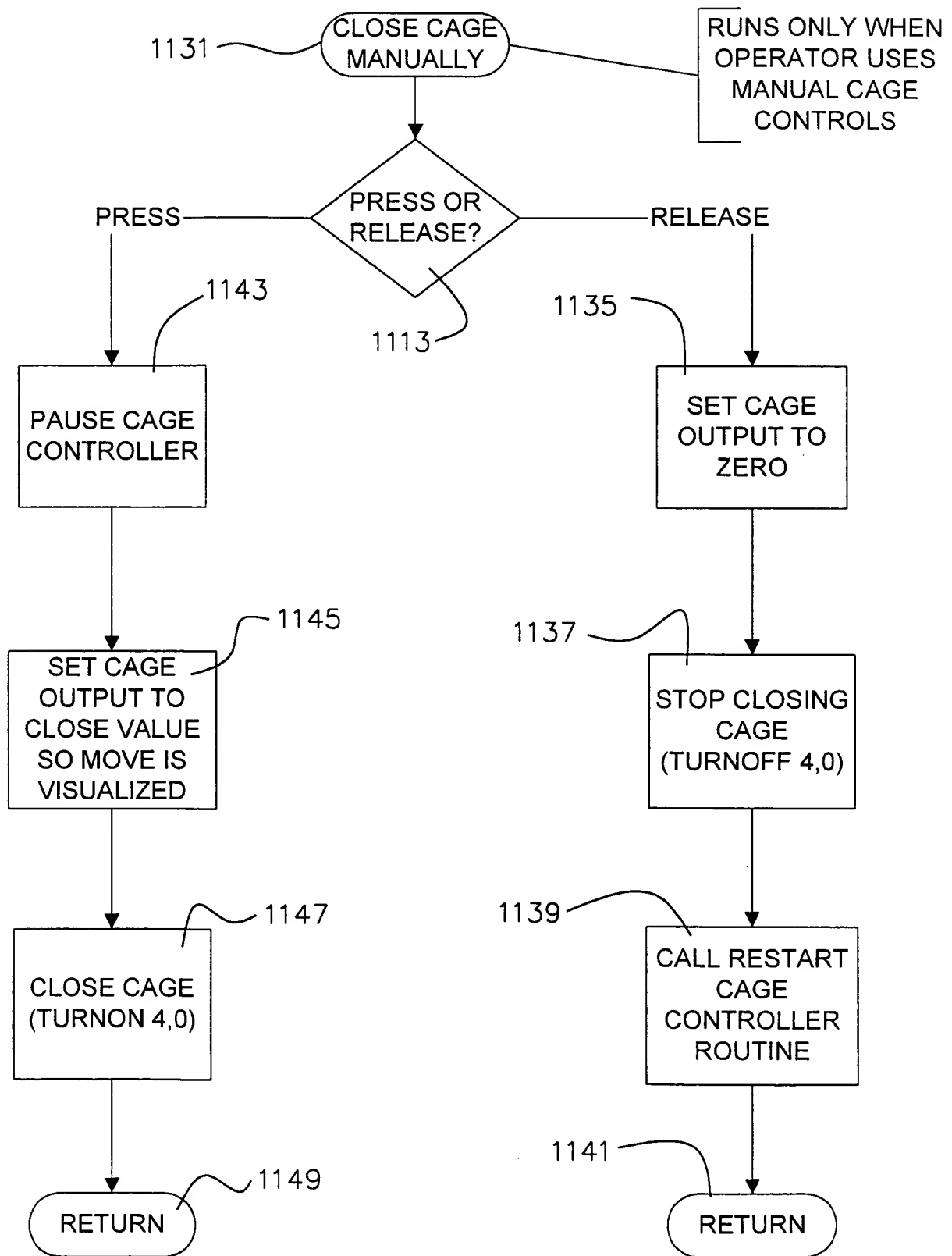


FIGURE 44G

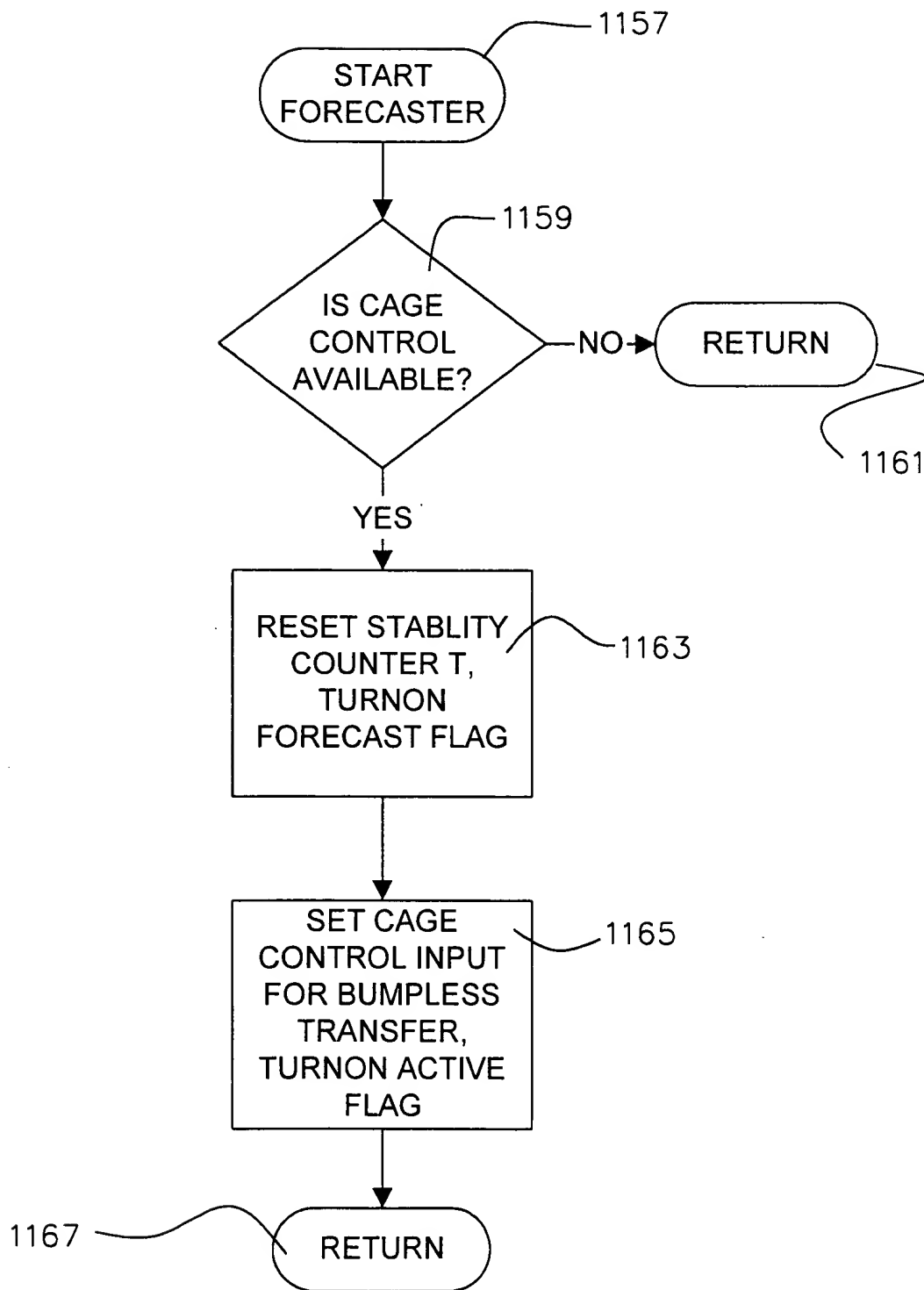


FIGURE 44J

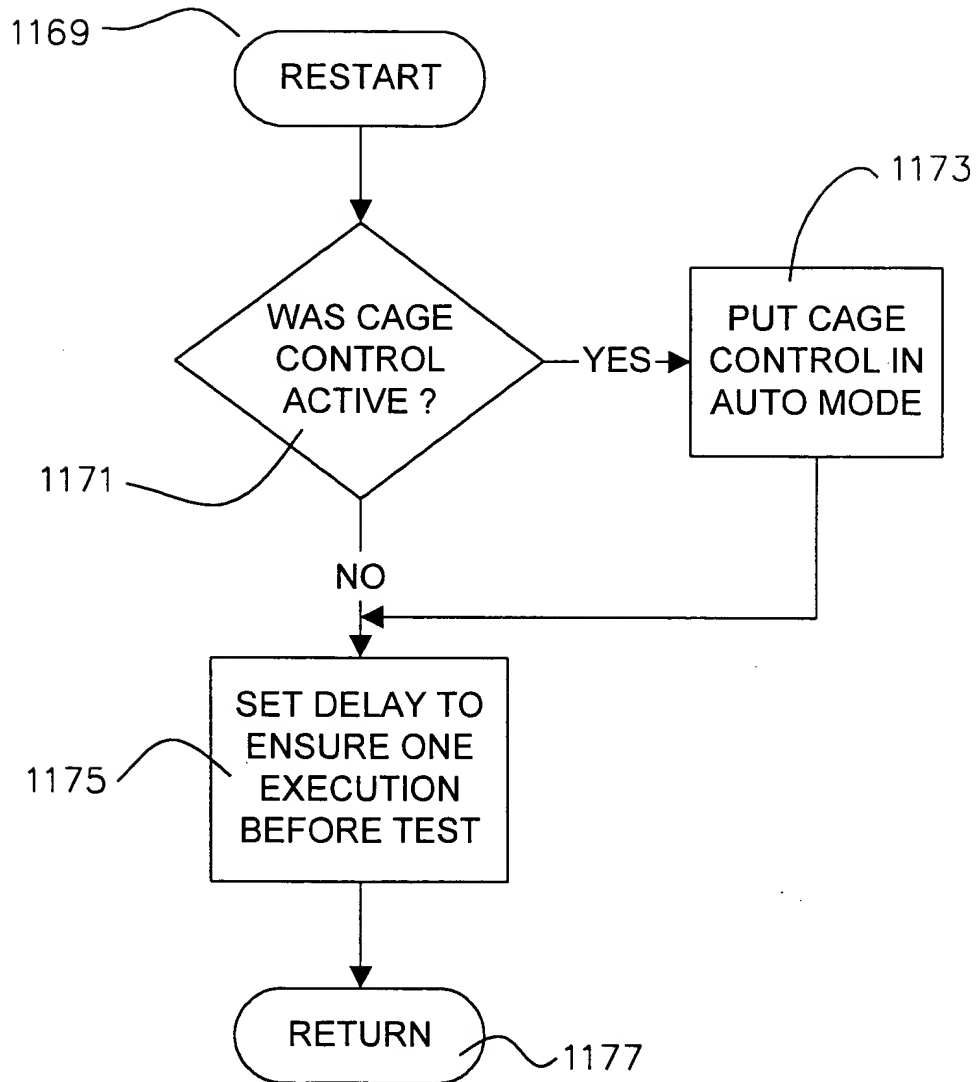


FIGURE 44K

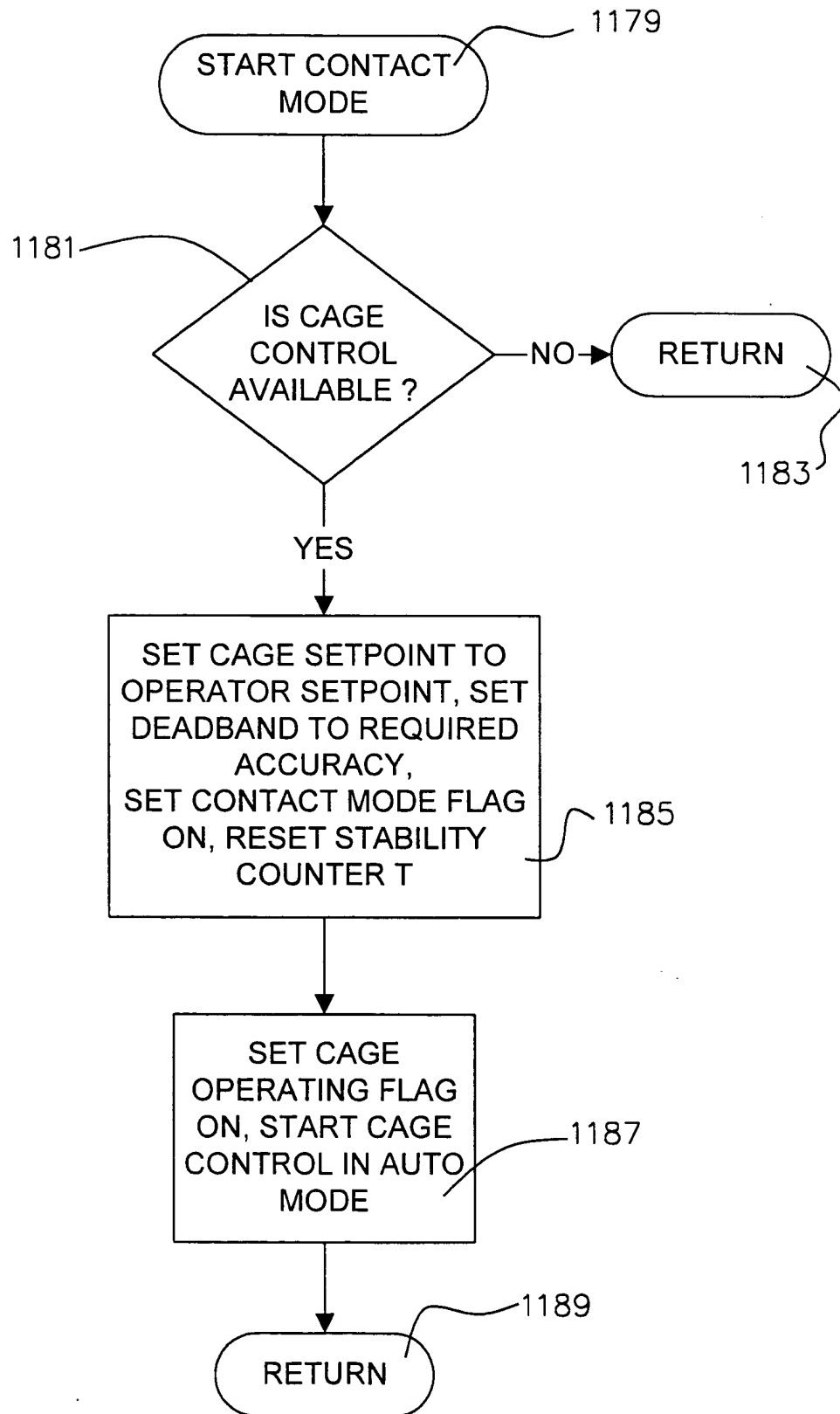


FIGURE 44L

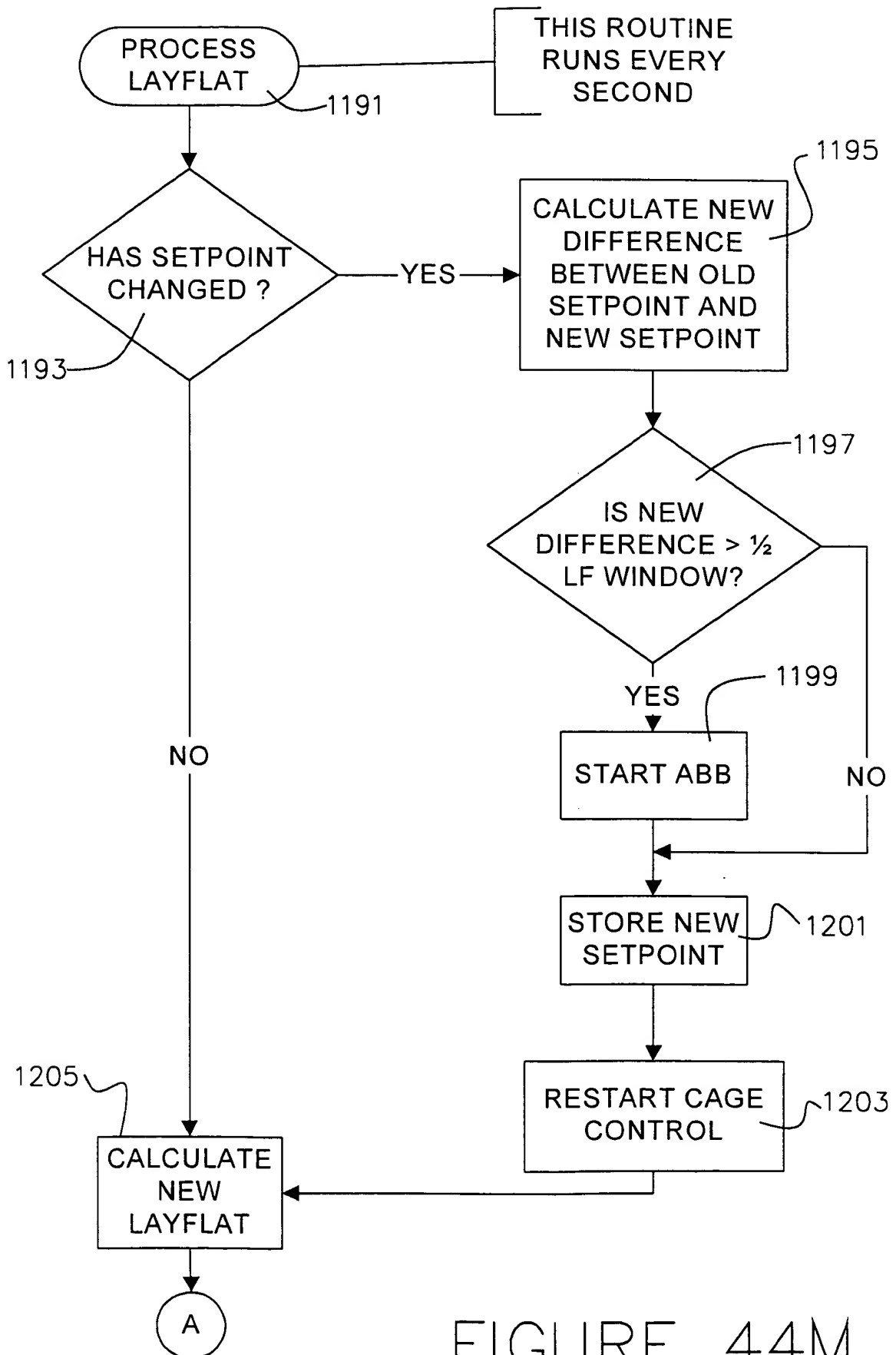


FIGURE 44M

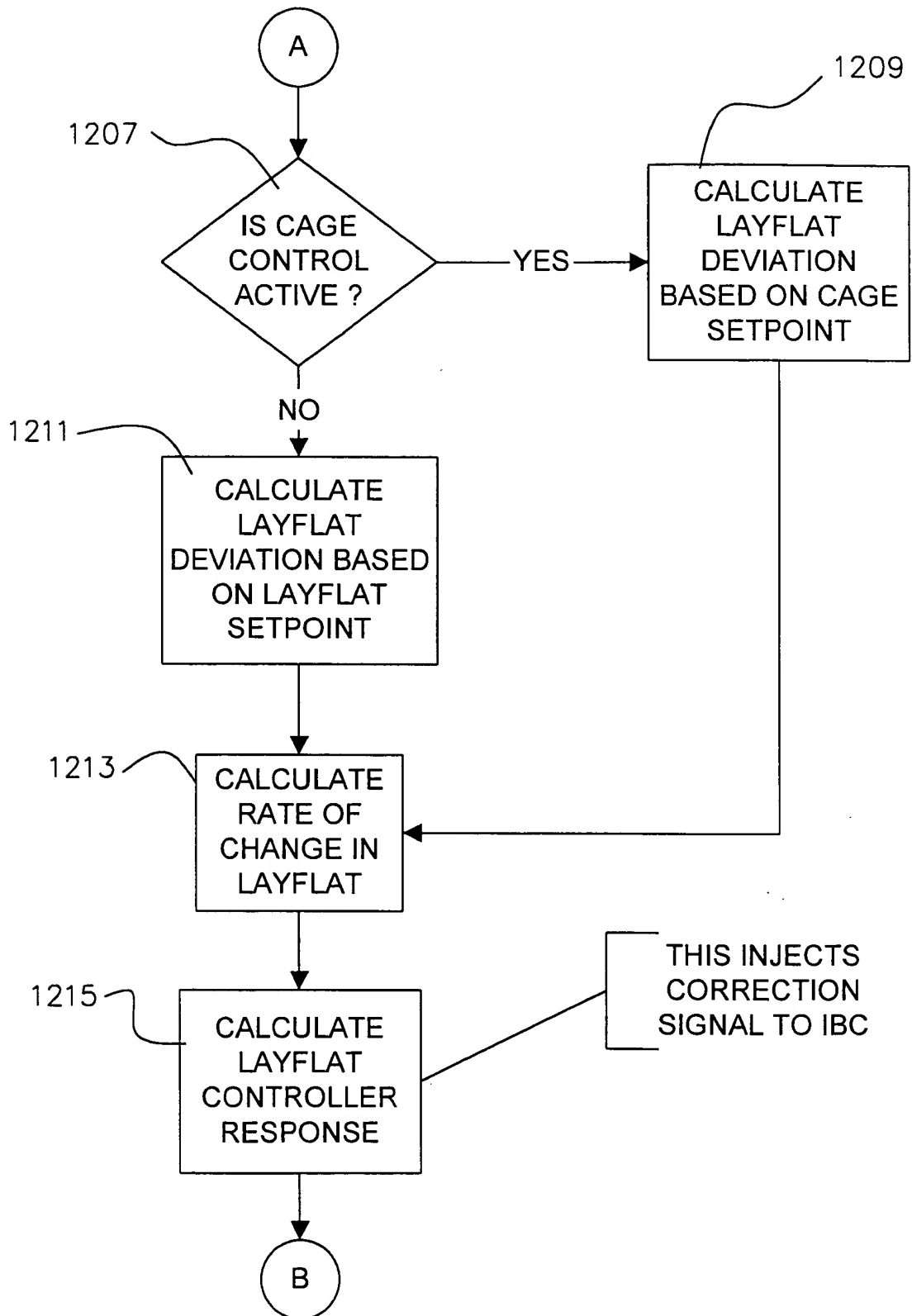
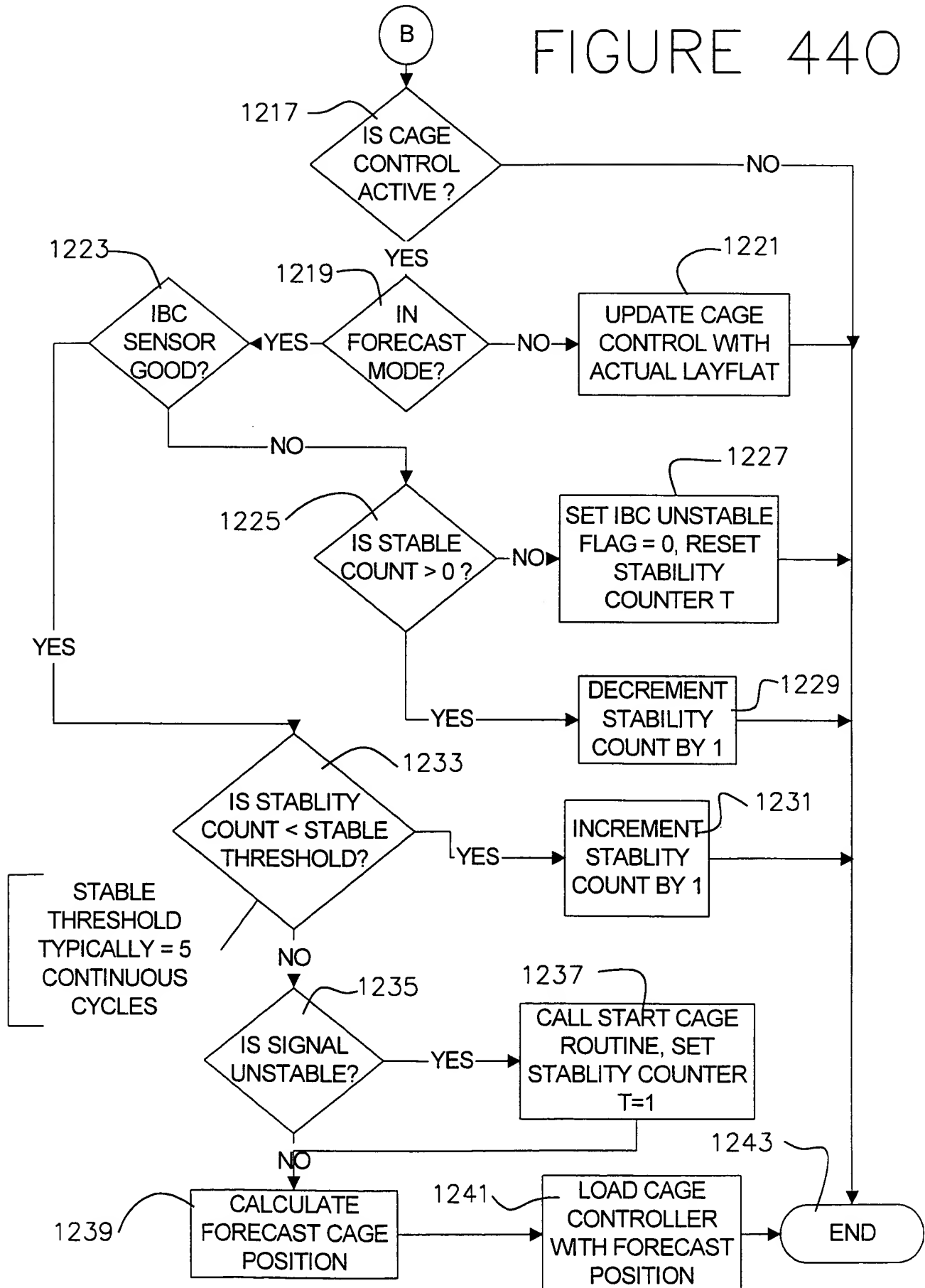


FIGURE 44N

FIGURE 440



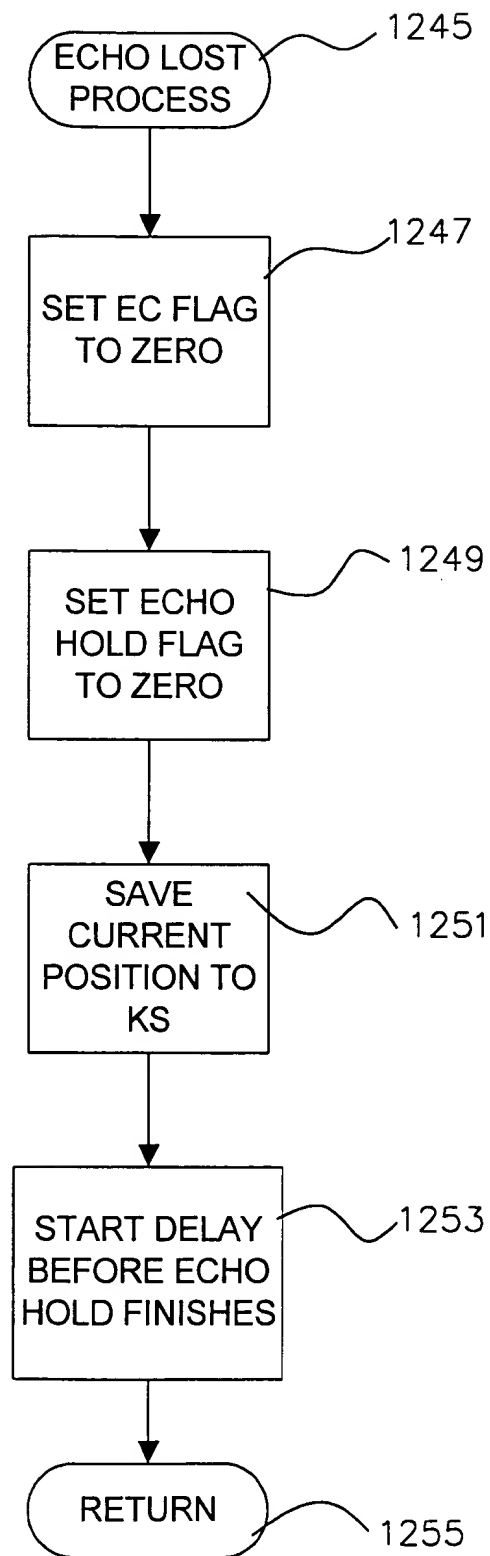


FIGURE 44P

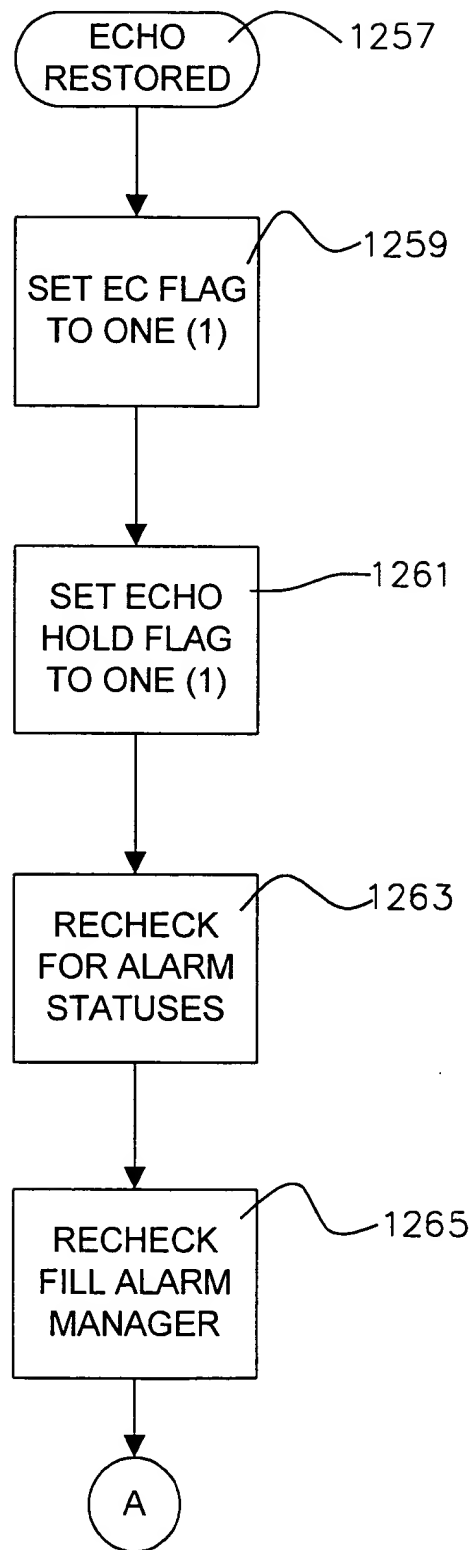
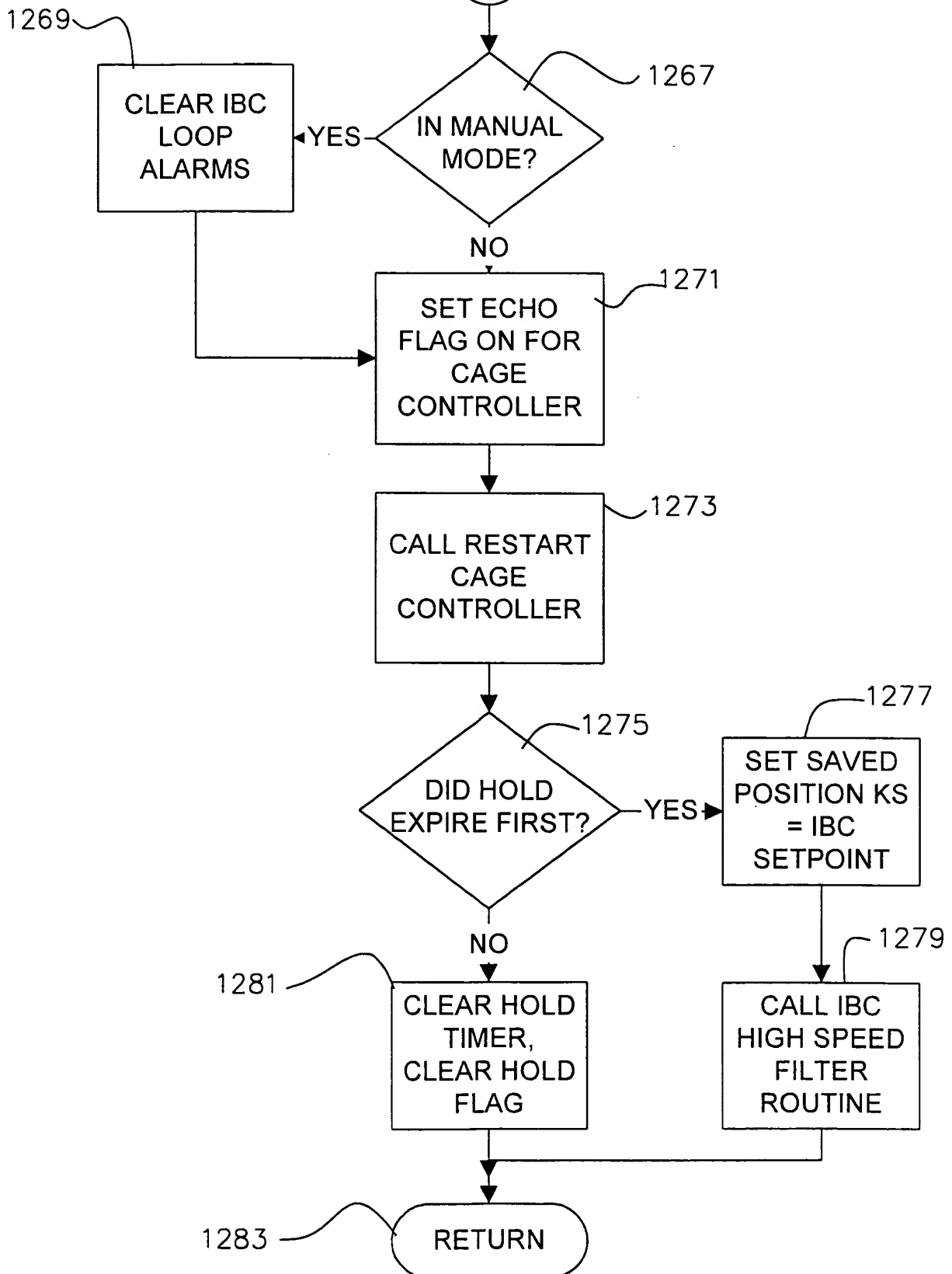


FIGURE 44Q

A FIGURE 44R



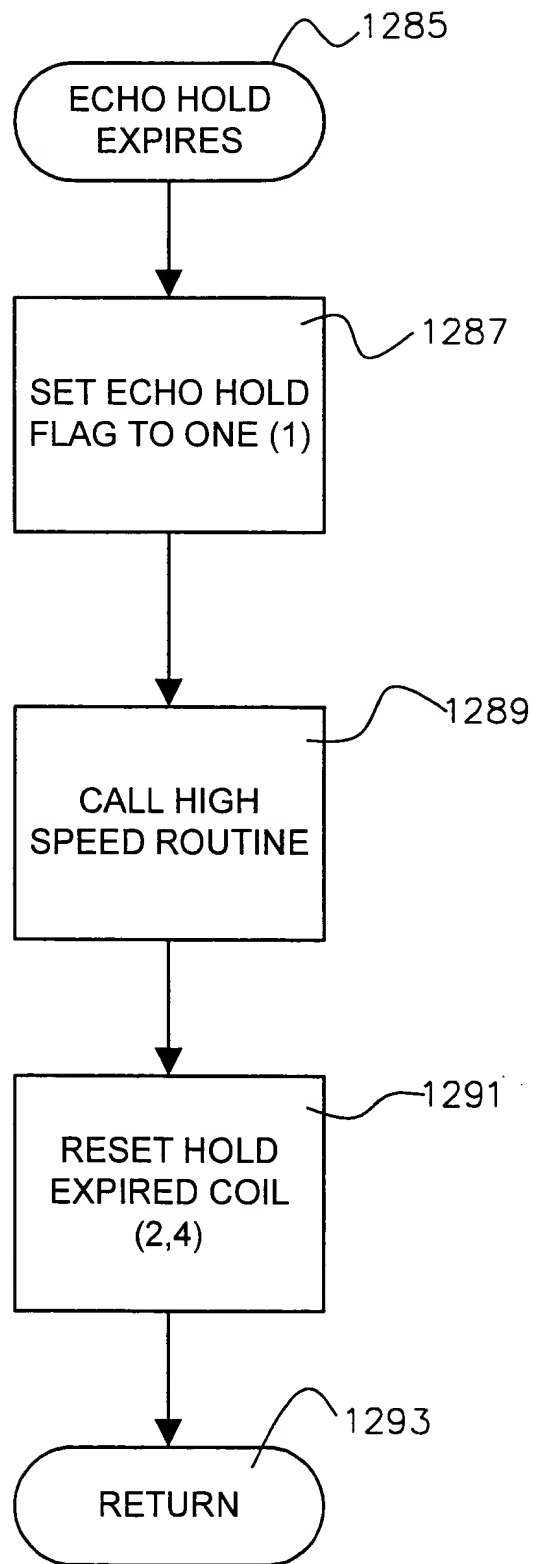


FIGURE 44S

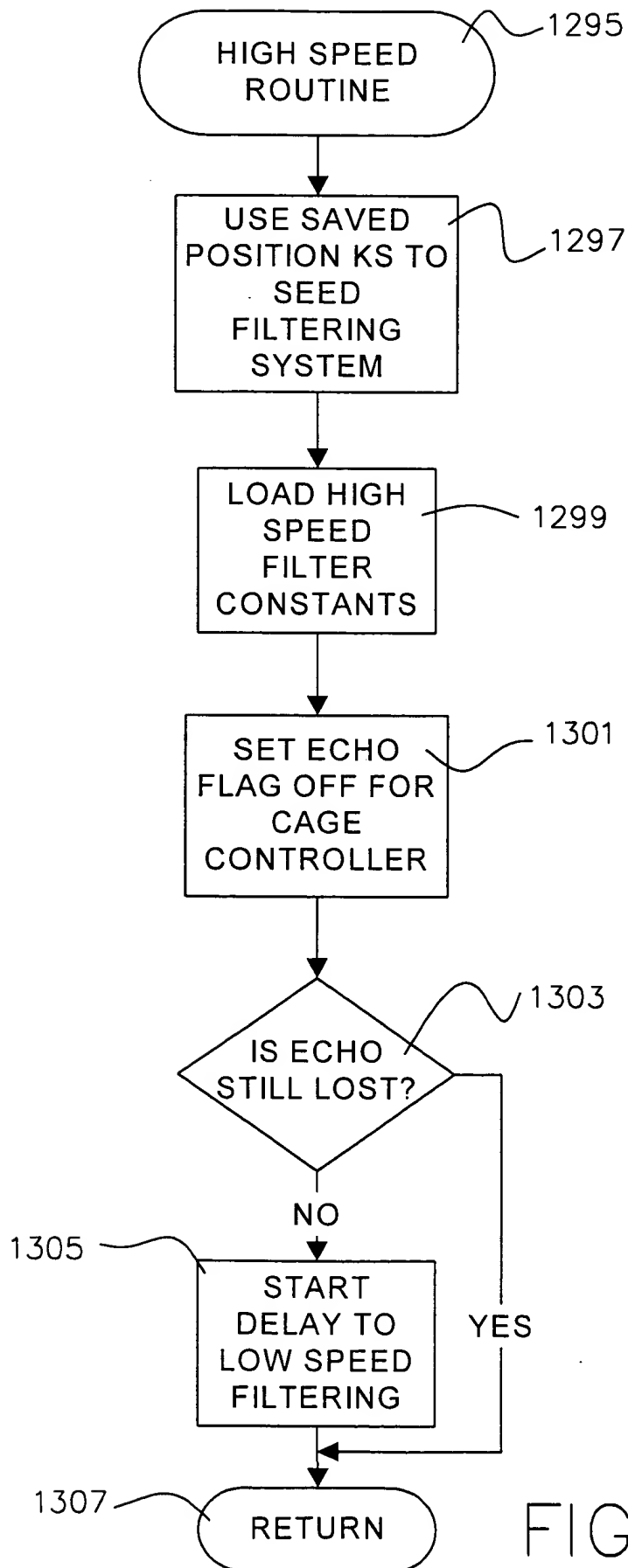


FIGURE 44T

Replacement Sheet

CAGE CONTROLLER MONITOR		163	AUTO CAGE		
ProcVal.....	12345	<div><div></div></div>	READY		
In Bias.....	1234	ECHO	RUNNING	CONTACT	
DeadBand.	1234	<div><div></div></div>			
SetPt.....	12345				
ERror.....	1234				
GAin.....	1.12				
ZeroScl.....	1234				
OutPut.....	1234				
FullScl.....	1234				
Mode.....	MAN				
Update.....	123				
TARGET		ACTUAL	CAGE	GOTO	GOTO
123.12		123.12	123.12	PARAM	BACK

FIGURE 45

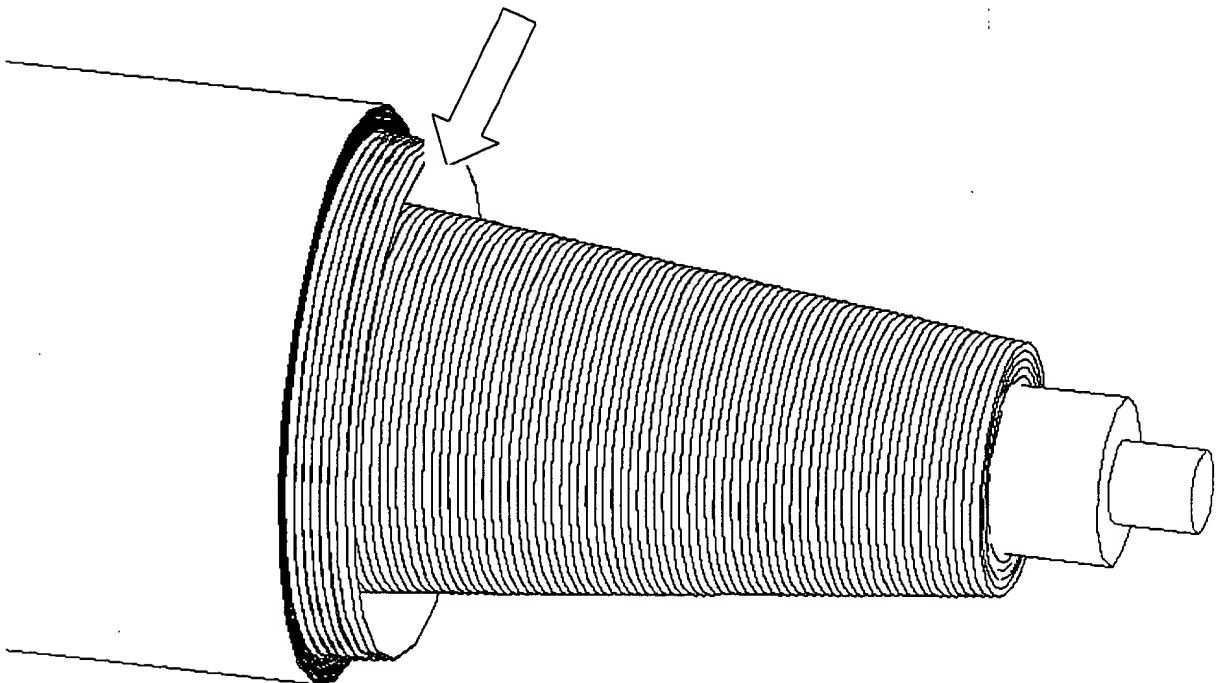


FIGURE 46

Replacement Sheet

CAGE CONTROLLER PARAMETERS

40 MIN P <div style="border: 1px solid black; text-align: center; width: 50px;">1.1</div>	45 OVRLM <div style="border: 1px solid black; text-align: center; width: 50px;">1.12</div>	48-CG SIZE <div style="border: 1px solid black; text-align: center; width: 50px;">1.12</div>
41 UPDAT <div style="border: 1px solid black; text-align: center; width: 50px;">12.1</div>	46 CONCT <div style="border: 1px solid black; text-align: center; width: 100px;">1.12</div>	
42 ERROR <div style="border: 1px solid black; text-align: center; width: 50px;">1.12</div>	47 MAX P <div style="border: 1px solid black; text-align: center; width: 50px;">1.1</div>	

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ACCEPT

READY

CAGE CONTROLLER PARAMETERS:
TO GET HELP ON A PARAMETER,
PRESS HELP AND ENTER THE
NUMBER. PRESS ACCEPT TO LOAD
NEW VALUES.

HELP
12

GOTO
BACK

FIGURE 47

CAGE CONTROLLER MONITOR

ProcVal.....	75.00
In Bias.....	0
DeadBand.....	0.25
SetPt.....	57.00
ERror.....	-.22
GAin.....	0.06
ZeroScl.....	-8
OutPut.....	0
FullScl.....	8
Mode.....	MAN
Update.....	150

163

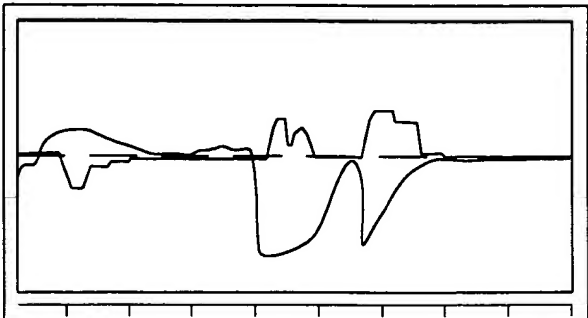
AUTO
CAGE

ECHO

READY

FINISHED

CONTACT



TARGET

75.00

ACTUAL

74.88

CAGE

74.78

GOTO
PARAM

GOTO
BACK

FIGURE 48

Replacement Sheet

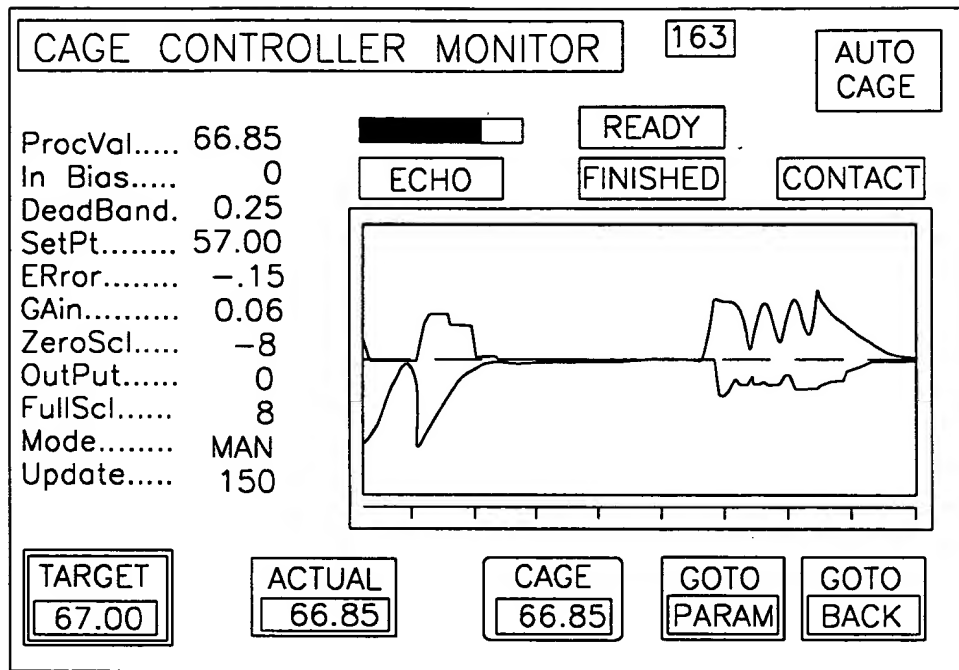


FIGURE 49

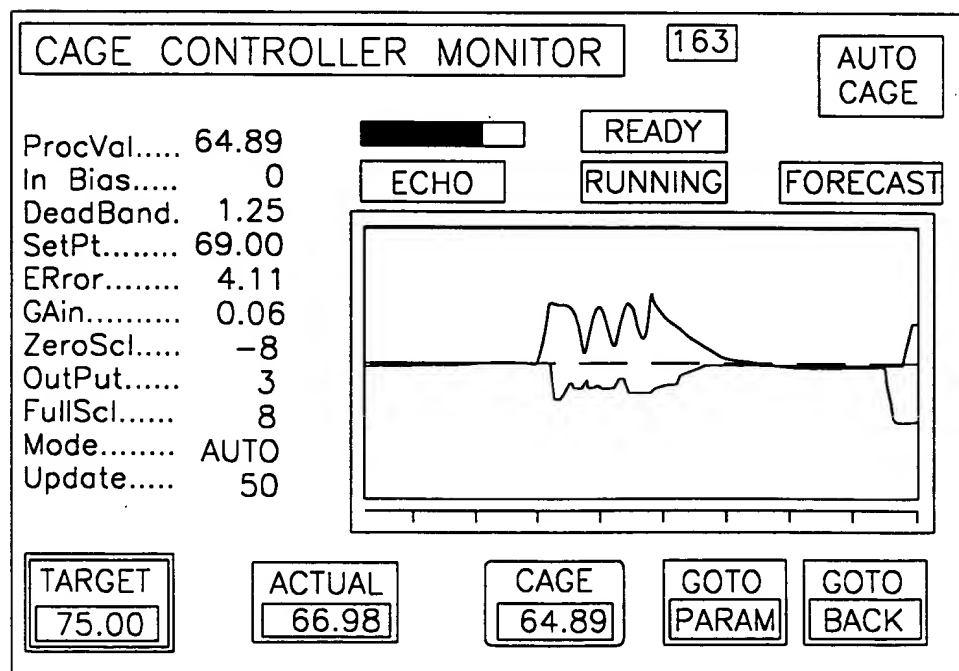


FIGURE 50

Replacement Sheet

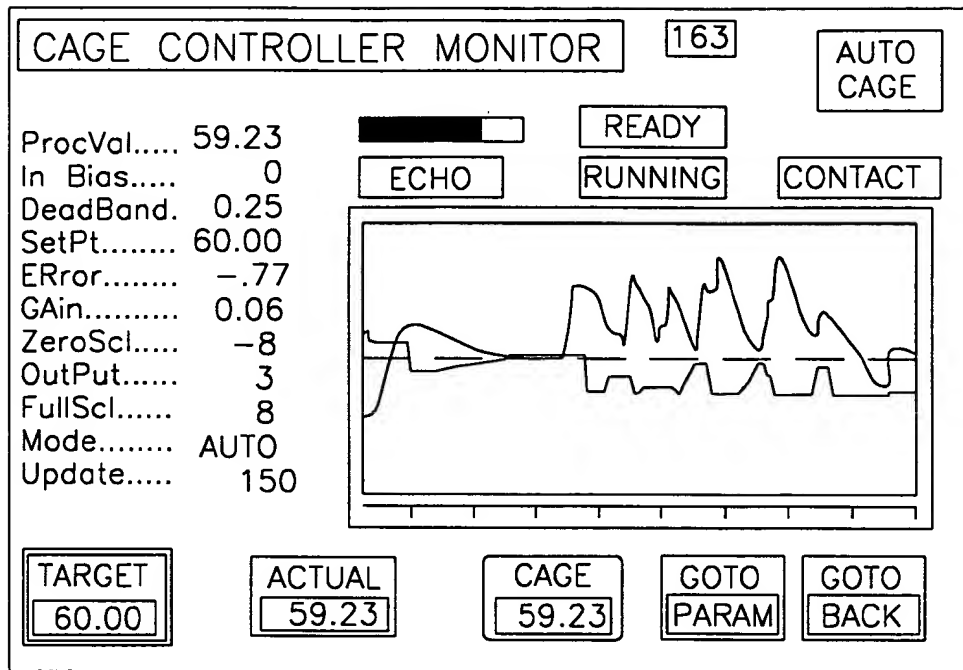


FIGURE 51

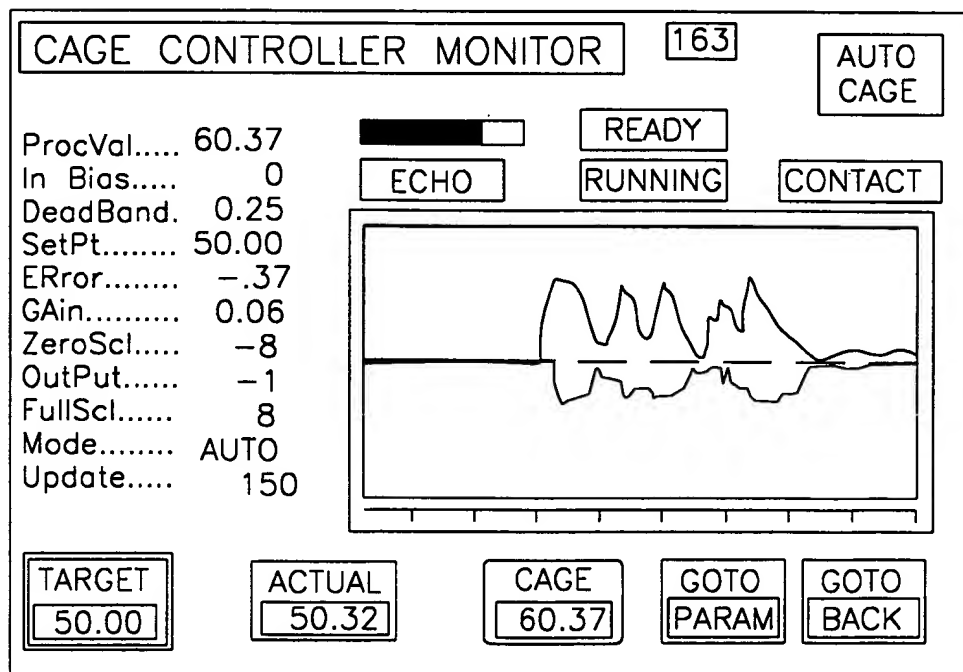


FIGURE 52

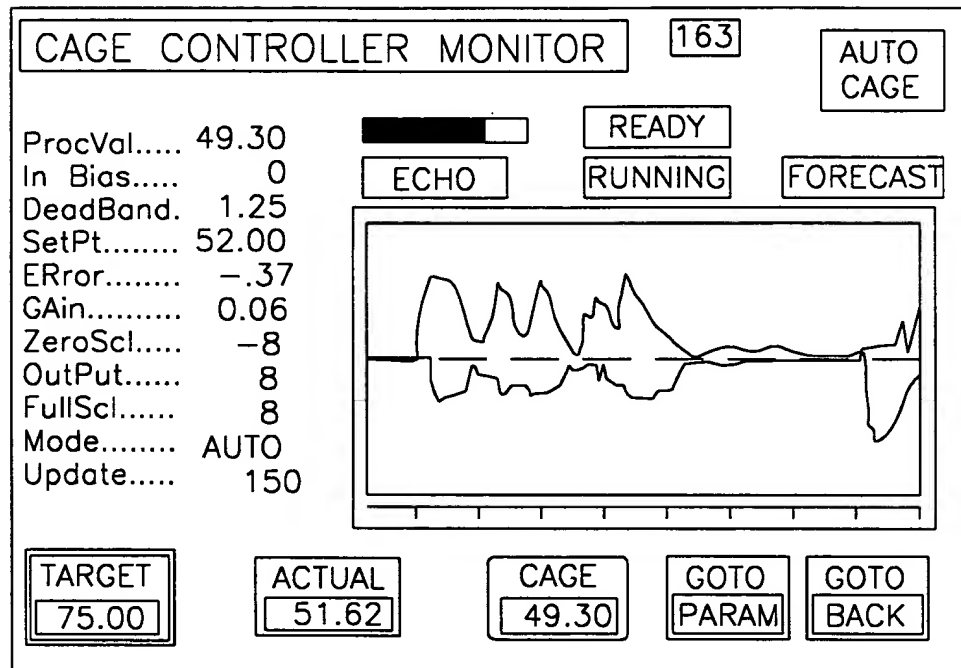


FIGURE 53